

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 1765
TO BE ANSWERED ON 22.12.2022

Electricity generation in nuclear power plants

1765 Dr. Ashok Kumar Mittal:

Will the PRIME MINISTER be pleased to state:

- (a) the number of nuclear power plants in the country and the status of their operations, the details thereof;
- (b) the number of proposed nuclear power plants with proposed cost for the same, State-wise list thereof;
- (c) electricity produced by the nuclear power plants in the country;
- (d) the details of the budget allocation for nuclear power plants for the last three budgets; and
- (e) the amount of atomic waste generated till November 2022 and the measures taken by Government for its safe disposal?

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 in the country comprises of 22 reactors with a capacity of 6780 MW. Out of the installed capacity of 6780 MW, RAPS-1 (100 MW) is presently under extended shutdown. TAPS 1&2 (2X160 MW) & MAPS-1 (220 MW) are under project mode to take up improvements to enhance their performance.
- (b) At present, construction of 11 nuclear power reactors with a total capacity of 8700 MW (including 500 MW by BHAVINI) are underway. The Government has accorded sanction for 10 more nuclear power reactors with a total capacity of 7000 MW. Further, in principle approval is also accorded for setting up

nuclear power plants at five sites in future. The state-wise list is attached as Annexure.

(c) 47112 Million Units of electricity was generated by our Nuclear Power Plants during 2021-22.

(d) The details are as follows:

Year	Capital Budget, BE (Rs. crore)
2019-20	12312
2020-21	14575
2021-22	14173

(e) The wastes generated at the nuclear power stations during their operation are of low and intermediate radioactivity level. These wastes are appropriately treated, concentrated and subjected to volume reduction. The concentrates are immobilized in inert materials like cement, bitumen, polymers etc. and stored in specially constructed structures located at the site under monitoring. Typically, the quantity of low and intermediate level waste to be stored at site is about 0.15 cubic meters/year/MW. The treated liquids and gases are diluted and discharged under continuous monitoring to ensure that, the discharges are well within the limits set by Atomic Energy Regulatory Board (AERB). The radioactivity level of the stored wastes reduces with time and falls to very low levels by the end of the plant life.

Annexure

State	Location	Project	Capacity (MW)	Approved Cost (Rs. crore)
Projects Under Construction				
Gujarat	Kakrapar	KAPP-3 ^{\$} & 4	2 X 700	11,459 [#]
Rajasthan	Rawatbhata	RAPP-7&8	2 X 700	12,320 ^{##}
Tamil Nadu	Kudankulam	KKNPP-3&4	2 X 1000	39,849
		KKNPP-5&6	2 X 1000	49,621
	Kalpakkam	PFBR ^{&}	1 X 500	6840
Haryana	Gorakhpur	GHAVP-1&2	2 X 700	20,594
Projects Accorded Sanction				
Karnataka	Kaiga	Kaiga-5&6	2 X 700	1,05,000
Haryana	Gorakhpur	GHAVP- 3&4	2 X 700	
Madhya Pradesh	Chutka	Chutka-1&2	2 X 700	
Rajasthan	Mahi Banswara	Mahi Banswara-1&2	2 X 700	
		Mahi Banswara-3&4	2 X 700	
Sites Accorded 'In-Principle'				
Maharashtra	Jaitapur	Jaitapur, Units- 1 to 6	6 x 1650	Project cost will emerge on finalization of project proposal.
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

^{\$} KAPP-3 connected to grid on Jan-2021

[&] Implemented by BHAVINI

[#] Under revision to Rs. 19220 crore

^{##} Under revision to Rs. 17079 crore