GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO- 1032
ANSWERED ON 13/02/2025

DEVELOPMENT AND GOALS OF NUCLEAR ENERGY

1032. SHRI SANJAY SINGH

Will the PRIME MINISTER be pleased to state:-

(a) whether Government has set a target of 22 Gigawatts (GW) for nuclear energy generation by 2030, if so, the details of under construction and operational nuclear plants so far under the set target, State-wise;

(b) the year-wise data with regard to the progress of Nuclear Plants under construction during the last five years along with the number of nuclear plants whose construction is still pending; and

(c) the percentage of contribution of uranium and thorium in atomic energy generation at present and the year-wise details thereof during the last five years?

ANSWER

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

(a) A target of reaching a nuclear power capacity of 22.48 GW by 2031-32 by progressive completion of projects under implementation has been set. The present installed capacity is 8.18 GW and a capacity of 14.3 GW is under implementation, comprising of 7.3 GW under construction (including PFBR by BHAVINI) and 7 GW under pre-project activities. The state-wise details are given in annexure A.

(b) The year-wise progress details are given in annexure B. In nuclear power projects, construction is reckoned from the placement of First Pour of structural Concrete (FPC), and activities prior to it are termed pre-project activities. In respect of 10 reactors (7 GW), presently pre-project activities are in progress.

(c) Presently all commercial nuclear power generation capacity in the country is fuelled by uranium based fuel. The year wise details of commercial generation during the last five years are as follows:

Year	Nuclear Power Commercial Generation (Million Units)
2019-20	46472
2020-21	43029
2021-22	47112
2022-23	45855
2023-24	47971

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Annexure-A

Reactors Under Operation			
State	**Location**	**Unit**	**Capacity**
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
		KAPS-3	700
		KAPS-4	700
Karnataka	Kaiga	KGS-1	220
		KGS-2	220
		KGS-3	220
		KGS-4	220
Total			8180

[&] Under project mode
[@] Under extended shutdown

Projects Under Construction / Commissioning			
State	**Location**	**Project**	**Capacity (MW)**
Rajasthan	Rawatbhata	RAPP-7*&8	2 X 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
Total			**7300**
Projects Under Pre-project Activities			
Karnataka	Kaiga	Kaiga-5&6	2 X 700
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
Total			**7000**

* Achieved first criticality on 19.09.2024

Annexure-B

<table>
<tr><th>Units/ Year</th><th>2019-20</th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th></tr>
<tr><td>KAPP-3</td><td colspan="4" rowspan="2">Under Construction/ Commissioning</td><td rowspan="2">In Commercial Operation</td></tr>
<tr><td>KAPP-4</td></tr>
<tr><td>RAPP-7</td><td colspan="5" rowspan="2">Under Construction/ Commissioning</td></tr>
<tr><td>RAPP-8</td></tr>
<tr><td>GHAVP-1</td><td colspan="5" rowspan="2">Under Construction</td></tr>
<tr><td>GHAVP-2</td></tr>
<tr><td>KKNPP-1</td><td colspan="5" rowspan="2">In Commercial Operation</td></tr>
<tr><td>KKNPP-2</td></tr>
<tr><td>KKNPP-3</td><td colspan="5" rowspan="2">Under Construction</td></tr>
<tr><td>KKNPP-4</td></tr>
<tr><td>KKNPP-5</td><td>-</td><td>-</td><td colspan="3" rowspan="2">Under Construction</td></tr>
<tr><td>KKNPP-6</td><td>-</td><td>-</td></tr>
<tr><td>PFBR</td><td colspan="5">Under Construction / Commissioning</td></tr>
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Notes:

KKNPP-1 Started commercial operation 31.12.2014
KKNPP-2 Started commercial operation on 31.03.2017
KAPP-3 Started commercial operation on 30.06.2023
KAPP-4 Started commercial operation on 31.03.2024

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