

**GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA**

UNSTARRED QUESTION NO:3776

ANSWERED ON:20.03.2013

NUCLEAR POWER PLANTS .

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Will the Minister of ATOMIC ENERGY be pleased to state:

- (a) the number of Nuclear Power Plants (NPPs) functioning in the country along with their locations/State and installed capacity, plant-wise;
- (b) the number of NPPs under construction along with location/State as well as power generation capacity and their present status, plant-wise;
- (c) the number of NPPs proposed to be set up along with location/State as well as power generation capacity and their present status, plant-wise;
- (d) whether the NPPs already functioning in the country are not generating power as per their installed capacity;
- (e) if so, the reasons therefor along with the installed capacity and the actual power generation by each plant;
- (f) the steps taken by the Government to ensure that power generation in these plants reaches the optimum level; and (g) the funds allocated, released and spent for the under-construction and proposed to be constructed plants during each of the last three years and the current year?

Answer

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY) :

(a) Nuclear power reactors in operation with installed capacity are as under:

Unit-Location	Installed Capacity (MWe)
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TAPS-1 Tarapur, Maharashtra	160
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TAPS-2 Tarapur, Maharashtra	160
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RAPS-1 Rawatbhata, Rajasthan	# 100
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RAPS-2 Rawatbhata, Rajasthan	200
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MAPS-1 Kalpakkam, Tamilnadu	220
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MAPS-2 Kalpakkam, Tamilnadu	220
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NAPS-1 Narora, Uttar Pradesh	220
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NAPS-2 Narora, Uttar Pradesh 220

KAPS-1 Kakrapar, Gujarat 220

KAPS-2 Kakrapar, Gujarat 220

KAIGA-2, Kaiga, Karnataka 220

RAPS-3 Rawatbhata, Rajasthan 220

KAIGA-1Kaiga, Karnataka 220

RAPS-4 Rawatbhata, Rajasthan 220

TAPS-4 Tarapur, Maharashtra 540

TAPS-3 Tarapur, Maharashtra 540

KAIGA -3 Kaiga, Karnataka 220

KAIGA -4 Kaiga, Karnataka 220

RAPS-5 Rawatbhata, Rajasthan 220

RAPS-6 Rawatbhata, Rajasthan 220

Total 4780

RAPS-1 shutdown from 09.10.2004 for review of continuation of operation.

(b) The details of nuclear power plants under construction are as under:

Project	Location	Capacity	Progress as	Expected start of
(MW)	of Feb 2013	generation		

KK -1&2	Kudankulam, Tamilnadu	2X1000	97.32 %	Unit-1 May 2013 Unit-2 Dec 2013
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KAPP 3&4	Kakrapar, Gujarat	2X700	34.0 %	2016-17
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RAPP 7&8	Rawatbhata, Rajasthan	2X700	21.4%	2016-17
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PFBR	Kalpakkam, Tamil Nadu	500	94%	2015
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(c) The XII Five Year Plan proposals envisage start of work on 19 new nuclear power reactors in the XII Five Year Plan. The details are:

Project	Location	Reactor Type	Capacity (MW)
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Indigenous Reactors

Gorakhpur 1&2	Gorakhpur, Haryana	PHWR	2X700
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Chutka 1&2	Chutka, Madhya Pradesh	PHWR	2X700
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Kaiga 5&6	Kaiga, Karnataka	PHWR	2X700
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Mahi Banswara 1&2	Mahi Banswara, Rajasthan	PHWR	2X700
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FBR 1&2	Kalpakkam, Tamilnadu	FBR	2X500
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AHWR	Site to be decided	AHWR	300
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LWRs with International Cooperation

Kudankulam 3&4	Kudankulam, Tamilnadu	LWR	2X1000
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Jaitapur 1&2	Jaitapur, Maharashtra	LWR	2X1650
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Chhaya Mithi Virdi 1&2	Chhaya Mithi Virdi, Gujarat	LWR	2X1100
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Kovvada 1&2	Kovvada, Andhra Pradesh	LWR	2X1500
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Pre-project activities, comprising of land acquisition at new sites (Gorakhpur, Chutka, Mahi Banswara, Chhaya Mithi Virdi and Kowada), obtaining statutory clearances and preparation of project proposals are in progress and at various stages at the above sites except at Kudankulam, where the pre-project activities have been completed and the project proposal is under consideration of the Government for accord of administrative approval and financial sanction.

(d)&(e) Out of 19 operating nuclear power reactors in the country with installed capacity of 4680 MW, ten nuclear power reactors with a capacity of 2840 MW namely Kaiga Generation Station Units 1 to 4 (4X220MW), Narora Atomic Power Station Units 1&2 (2X220 MW), Madras Atomic Power Station Units 1&2 (2X220 MW) and Tarapur Atomic Power Station Units 3&4 (2X540 MW) are fuelled with indigenous uranium, which is not available in the required quantity. These are accordingly being operated at lower power levels matching the fuel supply. The remaining 9 nuclear reactors with a capacity of 1840 MW are under International Atomic Energy Agency (IAEA) safeguards in accordance with the separation plan. These 9 reactors use imported uranium, which is available in required quantity, and are operating at rated capacity. The details of installed capacity and generation in the year 2011-12 are given below:

Location & State	UNITS	Capacity	2011-12
MW	Gen (MU)	CF(%)	

Tarapur,	TAPS-1	160	1371	98
Maharashtra				
	TAPS-2	160	1337	95

	TAPS-3	540	4325	91
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	TAPS-4	540	2781	59
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Rawatbhata,	RAPS-1	100	0	0
Rajasthan	RAPS-2	200	1821	104

	RAPP-3	220	1938	100
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	RAPS-4	220	1645	85
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	RAPS-5	220	1974	102
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	RAPS-6	220	1764	91
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Kalpakkam,	MAPS-1	220	1240	64
Tamilnadu				
	MAPS-2	220	1276	66

Narora,	NAPS-1	220	1047	54
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Uttar	NAPS-2	220	937	48
Pradesh				

Kakrapar,	KAPS-1	220	1919	99
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Gujarat	KAPS-2	220	1868	97
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Kaiga,	KAIGA-1	220	1270	66
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Karnataka	KAIGA-2	220	1381	71
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	KAIGA-3	220	1231	64
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(f) The government has made efforts to augment indigenous uranium supply by accelerating exploration efforts, opening new mines and processing facilities.

(g) NPCIL has not drawn any domestic budgetary support since 2005-06. The details of funds allocated and spent during the last three years and current year on under construction and proposed to be constructed projects in Rupees crore are as follows:

Project 2009-10 2010-11 2011-12 2012-13

BE Exp. BE Exp. BE Exp. BE Exp. Upto
Jan 2013

Projects
under
Construction

Kaiga 3&4 18 133.45 233 139.40 - - - -

RAPP 5&6 125 208.07 - - - - -

KK 1&2 855 1083.02 377 803.67 700 933.58 840 739.62

KAPP 3&4 400 150.08 344 352.89 1250 1077.38 1902 752.87

RAPP 7&8 200 166.49 103 287.71 700 545.73 1110 643.93

Projects Proposed

KK 3&4 1 12.15 400 13.50 350 29.43 800 76.90

Gorakhpur 1&2 - - - 1.21 2 0.42 69 521.22

Chutka 1&2 - - - 1.05 2 0.5 5 0.8

Mahi Banswara 1&2 - - - - - 0.69

Kaiga 5&6 - - - - - 2 -

Jaitapur 1&2 30 4.11 105 9.40 250 18.12 250 18.71

Kovvada 1&2 - - 200 4.56 100 1.94 15 2.68

Chhaya Mithi - - 200 4.21 125 2.84 5 1.18

Virdi 1&2

Bhimpur 1&2 - - - - - 0.32

Haripur 1&2 - - - 0.35 3 0.29 3 0.33

Funds allotted, released and spent pertaining to BHAVINI for the last three years and current year for PFBR and FBR Units 1&2 are as follows:

` IN CRORES

Project 2009-10 2010-11 2011-12 2012-13

BE Rele Exp. BE Rele Exp. BE Rele Exp. BE Rele Exp.
ased ased ased ased
(up
to
Jan
13)

PFBR 750 995.75 696.86 1275 330# 605.32 905 905# 31.33 600 174.67 386.22

FBR 1&2 - - - 125 15 1.24 50 - 1.10 100 - 2.83

Note : # includes ` 30 crore equity from NPCIL during 2010-11 and 2011-12.