GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:1795
ANSWERED ON:10.08.2011
SETTING UP OF ATOMIC POWER PLANTS
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Will the Minister of ATOMIC ENERGY be pleased to state:

(a) the details of nuclear power plants in the country with installed capacity and funds spent in installation of these plants, State-wise and Plant-wise;

(b) whether the target fixed for nuclear power generation during the Eleventh Five Year plan has been achieved by the Government;

(c) if so, the details thereof and if not, the reasons therefor alongwith the steps taken/proposed to be taken by the Government to increase the nuclear power generation in the country;

(d) whether some of the State Governments have requested to set up nuclear power plants in their State;

(e) if so, the details thereof, State-wise;

(f) whether the Government proposes to open new nuclear power plants in the country;

(g) if so, the details thereof, location-wise alongwith and estimated cost and capacity of these plants and names of companies helping in installation and other works of these plants; and

(h) the steps taken/proposed to be taken by the Government for timely completion of the said plants?

Answer

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

(a) There are 20 nuclear power reactors in operation with a total capacity of 4780 MW at six sites. The details are as under

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State  Location Unit  Capacity  Completion
      (MW)  Cost in Rs. crore

    Western Region

Gujarat  Kakrapar KAPS 1&2 2 X 220  1366.68

    TAPS-1&2 2 X 160  92.99
Maharashtra Tarapur  TAPS-3&4 2 X 540  6525

    Northern Region

    RAPS 1&2 100 + 200 175.81
Rajasthan Rawatbhata RAPS 3&4 2 X 220  2511

    RAPS 5&6 2 X 220  2362 #
Uttar Pradesh Narora  NAPS 1&2 2 X 220  723.62

    Southern Region

    Kaiga 1&2 2 X 220  2896

Karnataka  Kaiga  Kaiga 3&4 2 X220  2877 #
Tamilnadu Kalpakkam MAPS 1&2 2 X 220  245.87


# = Provisional, final cost is under certification
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(b)&(c): The target of nuclear power generation as per Mid-Term Appraisal (MTA) of XI Plan was 1,24,608 Million Units (MUs). The achievement till July 2011 has been 87862 MUs. The nuclear power generation in XI Plan is expected to be about 1,09,000 MUs. The shortfall has been on account of shortage of domestic fuel and delay in accessing imported fuel due to developments on international cooperation in the first three years of the plan period.

Efforts put in by the government have now resulted in access to imported fuel for reactors under safeguards, improvement in supply of domestic fuel and in substantial improvement in the generation of nuclear power in the fourth year of the plan period (26000 MUs in 2010-11).

(d): Yes, Sir.

(e): In the recent past, sites have been offered by the following states:

State	Place
Andhra Pradesh	Pulivendla Nizampatnam
Bihar	Rajauli
Haryana	Balsamand Kitlana
Karnataka	Mannur

The evaluation of these sites by the Standing Site Selection Committee of the Government is at various stages.

(f): Yes, Sir.

(g): Currently, seven nuclear power reactors with a capacity of 5300 MW are under construction. The details of the plants under construction are given below:

Project	Location & Type	Capacity (MW)	Approved Cost crore	Expected Completion
KK-1&2	Kudankulam, Tamilnadu	2X1000 Vodo-Vodyanoi-Energetichesky Reactors(VVERs)	13171#	2011-12
PFBR	Kalpakkam, Tamilnadu	500 Prototype Fast Breeder Reactor (PFBR)	3492#	2012-13
KAPP 3&4	Kakrapar, Gujarat	2X700 Pressurised Heavy Water Reactors (PHWRs)	11459	2015-16
RAPP 7&8	Rawatbhata, Rajasthan	2X700 Pressurised Heavy Water Reactors (PHWRs)	12320	2016-17

= under revision

Government has also accorded 'in principle' approval for five new sites and utilisation of the full potential of Kudankulam and Jaitapur sites in October 2009. The details of these sites are given below:

Location & State	In technical cooperation with Company & Country	Capacity (MW) in first phase (MW)	Total Capacity

Gorakhpur, Haryana	Indigenous	2 X 700	4 X 700
Chutka, Madhya Pradesh	Nuclear Power Corporation of India Limited, India	2 X 700	2 X 700
Kudankulam, Tamilnadu	Atomstryexport (ASE), Russian Federation	2 X 1000	6 X1000
Haripur, West Bengal		2 X 1000	6 X 1000
Jaitapur, Maharashtra	Areva, France	2 X 1650	6 X 1650
Kovvada, Andhra Pradesh	GE Hitach Nuclear Energy (GEH), USA	2 X 1000#	6 X 1000#
Chhaya Mithi Virdi, Gujarat	Westinghouse Electric Company (WEC), USA	2 X 1000#	6 X 1000#

= Nominal Capacity

Currently, pre-project activities including preparation of Detailed Project proposals are in progress. Discussions are in progress with the technology vendor companies in respect of reactors to be set up with foreign technical cooperation. The costs of the projects will be known after finalization of the project proposals.

The Government has also approved setting up two 500 MW Fast Breeder Reactors (FBRs 1&2) at Kalpakkam, Tamilnadu. These indigenous FBRs will be set up by Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI).

Recently, the Government has accorded 'in principle' approval for four more sites for indigenous PHWRs, to be set up by NPCIL:

Location & State	Capacity (MW)	Remarks
Mahi Banswara, Rajasthan	4 X 700	New site, Planned in two phases of 2X700 MW
Bhimpur, Madhya Pradesh	4 X 700	New site, Planned in two phases of 2X700 MW
Kaiga, Karnataka #	2 X 700	Existing site. 4X220 MW are in operation
Narora, Uttar Pradesh #	2 X 700	Existing site. 2X220 MW are in operation

= Expansion at existing sites

(h): All the requirements of embarking on large nuclear power programme and completing the projects on time are being addressed. In respect of indigenous projects, the capability and capacity of Indian industry to supply equipment and components generally exist. It is being augmented by formation of Joint Ventures. A Joint Venture for turbogenerators of 700 MW is proposed to be set up between NPCIL, Bharat Heavy Electricals Limited (BHEL) and M/s. Alstom, France. A Joint Venture between NPCIL and M/s Larsen Toubro Limited (L&T) has been incorporated to manufacture special steels and forgings required for manufacture of nuclear components. The human resources are also being developed for the programme in a planned manner.