GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 6201
TO BE ANSWERED ON 04.04.2018

GREEN FIELD SITES FOR NUCLEAR POWER PLANTS

6201. SHRI SHRIRANG APPA BARNE:
DR. PRITAM GOPINATH MUNDE:
SHRI ADHALRAO PATIL SHIVAJIRAO:
DR. SHRIKANT EKNATH SHINDE:

Will the PRIME MINISTER be pleased to state:

(a) whether the Government has identified green field sites for commercial operation of nuclear power plants/projects in the country and if so, the details thereof including the locations identified for the same, State/UT-wise;

(b) the time by which these projects are likely to be operationalised and the steps taken by the Government to expedite the completion of the same along with the estimated nuclear power generation post the completion of the said projects;

(c) whether the Government has drawn up any action plan to generate 40,000 MW of nuclear energy by 2020 and if so, the details thereof;

(d) the estimated investment required for the same along with the details of the sources from where these funds are to be mobilised; and

(e) whether the Government proposes to seek international cooperation to achieve the aforementioned target and if so, the details thereof?

ANSWER

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

(a) Yes, Sir. A capacity expansion is planned by setting up nuclear power reactors at the following green field sites:

Green field sites, accorded administrative approval and financial sanction:

Location & State	**Project**	**Capacity(MW)**
Gorakhpur, Haryana	GHAVP– 1 to 4	4 X 700
Chutka, Madhya Pradesh	Chutka-1&2	2 X 700
Mahi Banswara, Rajasthan	Mahi Banswara- 1 to 4	4 X 700

Excavation work at the Gorakhpur, Haryana site for setting up GHAVP-1&2 has already commenced. Pre-project activities including land acquisition, obtaining statutory clearances, site investigations and site infrastructure development work are under progress at these sites.

Green field sites, accorded 'In-Principle' approval:

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

**Nominal Capacity*

Pre-project activities at these sites are at various stages.

(b) The nuclear power projects in green field sites would be progressively setup. On completion of the green field site projects which have been accorded administrative approval and financial sanction, the installed nuclear power capacity would increase by 7000 MW by the year 2031. With the completion of the under construction and sanctioned projects, the total nuclear power installed capacity in the country will reach 22480 MW (including Prototype Fast Breeder Reactor [PFBR], 500 MW being implemented by Bharatiya Nabhikiya Vidyut Nigam Limited [BHAVINI]) by the year 2031.

Further, on completion of the nuclear power projects planned to be setup at the 'In-Principle' approved green field sites, a nuclear power capacity of about 31948 MW will be added progressively.

The Government has taken several enabling steps to increase the nuclear power capacity, based both on indigenous technologies & with foreign technical cooperation and to provide adequate quantity of fuel. These include:

i. Resolution of issues related to Civil Liability for Nuclear Damage (CLND) Act, 2010.

ii. Creation of Indian Nuclear Insurance Pool (INIP).

iii. Accord of administrative approval and financial sanction of - ten (10) indigenous 700 MW Pressurized Heavy Water Reactors (PHWRs) to be set up in fleet mode. Of these, eight (08) are to be setup at green field sites.

iv. Amendment of the Atomic Energy Act to enable Joint Ventures of Public Sector Companies to set up nuclear power projects.

v. Entering into enabling agreements with foreign countries for nuclear power cooperation including supply of fuel.

(c) On the progressive completion of the projects under construction, the installed nuclear power capacity will reach 13480 MW (including PFBR, 500MW being implemented by BHAVINI) by the year 2024.

(d)&(e) Nuclear power reactors to be set up are funded by a mix of debt and equity. Generally, the debt to equity ratio is about 70:30. The equity requirements are met from indigenous sources comprising of investments by Nuclear Power Corporation of India Limited (NPCIL) and domestic budgetary support. The debt is sourced from both domestic and external borrowings. In respect of reactors to be set up in technical cooperation with foreign countries, debt is planned to be sourced from either the vendor country as credit or from lending agencies.

The equity requirements of future reactors is planned to be met with the internal resources, Government's budgetary support and contribution of Joint Venture (JV) partners.

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