GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:3960
ANSWERED ON:17.12.2014
NUCLEAR POWER PROGRAMME .
Ramachandran Shri Krishnan Narayanasamy

Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether the Government is very keen to implement the third stage of Indian Nuclear Power Programme;

(b) if so, the details thereof and the salient features of the programme;

(c) the list of nuclear power projects initiated during the last five years and to be initiated in the near future; and

(d) the amount earmarked for this programme and the estimated power likely to be generated?

Answer

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

(a)&(b) The Government is committed to implement the third stage of Indian Nuclear Power Programme, after an adequate nuclear installed capacity has been reached based on Fast Breeder Reactors to be set up in the second stage. On account of non-existence of any fissile isotope in naturally occurring Thorium (unlike that existing in Uranium), commercial utilisation of Thorium, on a significant scale, can begin only when abundant supply of either Uranium or Plutonium resources are available. Upon the launch, followed by a significant growth of a thorium based nuclear programme in this manner, it could be possible to maintain the achieved level (without much further growth) of nuclear power programme with thorium alone, without additional demands on uranium or plutonium resources. Therefore, considering the meager domestic uranium resources in the country, it is feasible to start a significant commercial level Thorium based reactor programme in our country only after an adequate inventory of Plutonium becomes available from our Fast Breeder Reactors, comprising the second stage of Indian nuclear programme. Accordingly, the utilisation of Thorium as a practically inexhaustible energy source has been contemplated during the third stage of the Indian nuclear programme, which can be reached after a few decades.

Substantial work has been carried out in the areas of research on technologies for utilisation of Thorium in nuclear fuel cycle, and on the development of an Advanced Heavy Water Reactor (AHWR), to serve as a technology demonstrator for use of thorium based fuel on a large scale.

(c) & (d) The details are given below:

Projects initiated in the last five years:

Project	Location	Capacity (MW)	Completion Cost (`crore)
Kakrapar Atomic Power Project Units 3&4 (KAPP 3&4)	Kakrapar, Gujarat	2 X 700	11459
Rajasthan Atomic Power Project Units 7&8 (RAPP 7&8)	Rawatbhata, Rajasthan	2 X 700	12320

The details of Nuclear Power Projects planned for start of work in the XII Five Year Plan are given below:

Project	Location	Capacity (MW)

Indigenous Reactors

Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP 1&2)	Gorakhpur, Haryana	2 x 700
Chutka Madhya Pradesh Atomic Power Project (CMPAPP 1&2)	Chutka, Madhya Pradesh	2 x 700
Mahi Banswara, 1&2	Mahi Banswara, Rajasthan	2 x 700
Kaiga 5&6	Kaiga, Karnataka	2 x 700
Fast Breeder Reactor (FBR 1&2)	Kalpakkam, Tamil Nadu	2 x 500
Advanced Heavy Water Reactor (AHWR)	Location to be decided	300

Reactors with Foreign Cooperation

Kudankulam Nuclear Power Project (KKNPP 3&4)	Kudankulam, Tamil Nadu	2 x 1000
Jaitapur Nuclear Power Project (JNPP 1&2)	Jaitapur, Maharashtra	2 x 1650
Kovvada, 1 & 2	Kovvada, Andhra Pradesh	2 x 1500
Chhaya Mithi Virdi, 1&2	Chhaya Mithi Virdi, Gujarat	2 x 1100

The approved cost of Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) 1&2 is `20594 crore and that of KKNPP 3&4 is `39849 crore. The cost of the other planned projects under XII Five Year Plan is yet to be finalised.