GOVERNMENT OF INDIA DEPARTMENT OF ATOMIC ENERGY LOK SABHA UNSTARRED QUESTION NO. 4130 TO BE ANSWERED ON 10.08.2016

CODE OF AERB FOR NPPS

4130. SHRI RAHUL SHEWALE: SHRI SANJAY DHOTRE: SHRI BHARTRUHARI MAHTAB:

Will the Prime Minister be pleased to state:

- (a) the criteria laid down in the code of Atomic Energy Regulatory Board (AERB) for setting up of Nuclear Power Plants (NPPs) in the country;
- (b) whether the Government proposes to set up more nuclear power plants in the coastal areas of the country;
- (c) if so, the details thereof along with the number of such plants operational in coastal areas of the country, State-wise;
- (d) whether the nuclear plants operational in the country are utilising their optimum capacity in power generation; and
- (e) if so, the details thereof, plant-wise and if not, the reasons therefor along with the share of nuclear power plants in the total power generation in the country?

ANSWER

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

(a) Atomic Energy Regulatory Board (AERB) has specified the safety and security requirements for setting up of Nuclear Power Plants in its safety directives and codes. With respect to setting up of Nuclear Power Plant the applicable codes are; Code on Site Evaluation of Nuclear Facilities, Code on Design of Light Water Reactor based Nuclear Power Plants, Code on Design of Pressurized Heavy Water Reactor based Nuclear Power Plants, Code on Nuclear Power Plant Operation, Code on Quality Assurance in Nuclear Power Plants, Code on Radiation Protection for Nuclear Fuel Cycle Facilities and Code on Management of Radioactive Waste. The broad technical criteria as laid down in the AERB code. *Inter- alia* include Seismicity & Location of faults, Geology, Foundation conditions, Meteorology, Potential of flooding (from tsunami, storm surge, etc. at coastal sites and from Rain, upstream dam break, etc. at inland sites), Proximity to airports, Military installations and Facilities storing explosives & toxic substances etc. In addition, availability of land, water, demand of electricity in the region, power evacuation and availability of other energy option also form the basis for evaluation of potential sites.

- (b) Yes, Sir.
- (c) The details of nuclear power plants in operation, under construction and planned in future at coastal sites are as follows:

State	Location	No of	Capacity (MW)	
		Reactors		
Reactors in Operation				
Maharashtra	Tarapur	4	2 X 160 + 2 X 540	
Tamil Nadu	Kalpakkam	2	2 X 220	
	Kudankulam	1	1000	
Reactors under Commissioning				
Tamil Nadu	Kudankulam	1*	1000*	
	Kalpakkam	1	500 **	
Reactors under Construction				
Tamil Nadu	Kudankulam	2#	2 X 1000 [#]	
Sites Accorded In principle Approval				
Maharashtra	Jaitapur	6	6 X 1650	
Andhra Pradesh	Kovvada	6	6 X 1000 [@]	
Tamil Nadu	Kudankulam	2	2 X 1000	
Gujarat	Chhaya Mithi Virdi	6	6 X 1000 [@]	
West Bengal	Haripur	6	6 X 1000 [@]	

*KKNPP-2 attained first criticality on July 10, 2016

[#]Excavation is in progress in KKNPP 3&4

[@] Nominal Capacity

** Prototype Fast Breeder Reactor (PFBR)

- (d) Yes, Sir.
- (e) Nuclear power plants are presently being operated at their rated capacity. The details of Plant Load Factors (April to June 2016) plant wise are enclosed as Annexure. The share of nuclear power in the total electricity generation in the year 2015-16 was about 3.4%.

ANNEXURE

Nuclear Power Plant	Location	Capacity, MW	Plant Load Factor, % (April to June, 2016)
TAPS – 1	Tarapur, Maharashtra	160	86.59
TAPS – 2		160	0*
TAPS – 3		540	55.75 ^{\$}
TAPS – 4		540	99.31
RAPS – 2	Rawatbhata, Rajasthan	200	32.35 ^{\$\$}
RAPS – 3		220	89.54
RAPS – 4		220	93.33
RAPS – 5		220	94.64
RAPS – 6		220	81.69
MAPS – 1	Kalpakkam, Tamil Nadu	220	79.61
MAPS – 2		220	79.73
NAPS – 1	Narora, Uttar Pradesh	220	90.39
NAPS – 2		220	74.99
KAPS – 1	Kakrapar, Gujarat	220	0**
KAPS – 2		220	0**
KGS – 1	Kaiga, Karnataka	220	63.39 ^{\$}
KGS – 2		220	89.20
KGS – 3		220	38.90 ^{\$\$}
KGS – 4		220	98.27
KKNPP – 1	Kudankulam, Tamil Nadu	1000	98.44

* TAPS-2 is shutdown for refueling and Reactor Pressure Vessel inspection works. The unit restarted its operation from 25.07.2016.
* *Under shutdown for inspection of coolant channels.
* Biennial shutdown (BSD) was taken in this period as per the plan.
\$\$ Unit was under shutdown for BSD & maintenance activities.
