GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2321
TO BE ANSWERED ON 15.03.2023

Targets set in COP - 26

2321. SHRI VENKATESH NETHA BORLAKUNTA:
SHRIMATI KAVITHA MALOTHU:
DR. G. RANJITH REDDY:

Will the PRIME MINISTER be pleased to state:

(a) the manner in which the Government feels that nuclear power is critical for achieving India's clean energy targets set in COP-26;

(b) the reasons for not developing small nuclear reactors with 200-300 MW capacity which are cost-effective and could be better maintained;

(c) the details of technologies that India have to take up for small nuclear reactors; and

(d) whether any step has been taken by the Government in this regard and, if so, the details thereof?

ANSWER

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

(a) As part of Low Carbon Development of Electricity Systems consistent with Enhanced Development benefits, Government is exploring a significantly greater role for nuclear power. Presently (2020-21) nuclear power is saving 41 million tonnes of CO2 emissions annually, compared to the emissions that would be generated by equivalent electricity generation from coal based thermal power plants. Nuclear power currently provides 3% of electricity generation. Sufficient production and share of nuclear power is essential for ensuring country's energy security. Current policy targets a three-fold rise in nuclear installed capacity by 2032.

Nuclear energy can be considered for delivering base load power free of intermittency in place of energy from fossil fuels. DAE considers nuclear energy as a significant component of its non-fossil fuel power generation capacity and will continue to pursue research and innovation in this sector.

(b) Out of 22 operating nuclear reactors in India, 18 are of less than 300 MWe capacity. Small nuclear reactors with 200 – 300 MW capacity are already part of country's operating fleet of nuclear reactors.

Selection of a nuclear reactor power level depends on multiple factors, including demand of electricity in the region, capability of grid to evacuate power and availability of technology and its supply chain.

There is talk of modern generation lower power nuclear reactors (popularly known as SMRs) which promises cost-effectiveness; however so far there is no commercial working reactor of this category all across the globe (except with the exception of Russia). The cost-effectiveness of the SMRs is also not proven as yet, particularly in the Indian context.

(c)&(d) DAE is studying SMR development in other countries & yet to initiate activities for indigenous SMR development.

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