GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:4861
ANSWERED ON:20.12.2000
SAFETY MEASURES FOR NUCLEAR REACTORS
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Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether Bhabha Atomic Research Centre has madesuggestions that the country needs to evolve technology which can help in making nuclear reactors safer as well as economically competitive;

(b) if so, the extent to which the suggestions have been accepted by the Government;

(c) whether a number of safety measures have been incorporated into heavy water reactor;

(d) if so, the other safer and environmental friendly measures taken/proposed to be taken by the Government in nuclear installations;

(e) whether the Government propose to diversify and develop the Kalpakkam Nuclear Power Plant in Tamil Nadu; and

(f) if so, the measures taken/to be taken by the Government in this regard alongwith funds provided for the plant during the last five years?

Answer

THE MINISTER OF STATE IN THE DEPARTMENT OF ATOMIC ENERGY(SMT. VASUNDHARA RAJE)

(a) & (b) At Bhabha Atomic Research Centre, evolving newtechnologies for enhancing safety and economical competitiveness of nuclear reactors, is an ongoing process. Projects incorporating several proposals with the above mentioned objectives have been sanctioned by the Government under IX Plan.

(c) Yes, Sir.

(d) Taking/proposing safer and environmental friendly measures is also an ongoing process. Some of the fields in which these measures have been taken are Reactor Containment System, Liquid Poison Injection System (LPIS), improved coolant channe material and design, in-service inspection systems, better seismic resistance etc.

Some of the other advanced safety and environment friendly measures in this regard in the advanced reactor systems are natural circulation of primary coolant, negative void co-efficient or reactivity, passive containment isolation, passive containment cooling, core submergence, passive core decay heat removal and gravity driven water pool.

(e) & (f) Apart from the existing two units of Madras Atomic Power Station at Kalpakkam, (MAPS-1 & MAPS-2) 2x170 MWe, the proposals in the Ninth Five Year Plan for Nuclear Power Development at Kalpakkam inTamil Nadu include commencement of preliminary work on the Prototype Fast Breeder Reactor (PFBR)(1x500 MWe) towards the end of IX Plan. Besides, based on in-service inspection, coolant channels of MAPS-1 reactor are expected to be due forreplacement during the next couple of years to enhance the life of the reactor by another twenty years. Similar exercise for MAPS-2 will also becarried out whenever the coolant channel replacement for these reactors will be due.