

**GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA**

UNSTARRED QUESTION NO:214
ANSWERED ON:09.07.2014
SAFETY OF NUCLEAR POWER PLANTS
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Will the Minister of ATOMIC ENERGY be pleased to state:

- (a) the measures taken to ensure the safety of the nuclear power plants in the country, plant-wise;
- (b) the details of the mechanism put in place to monitor the safety parameters of all the nuclear plants in the country; and
- (c) the details of the shore protection measures undertaken for the safety of the atomic power stations located near the sea coast?

Answer

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

(a) At all nuclear power stations, state of the art safety measures are provided based on principles of redundancy (more than what is required) and diversity (operating on different principles). These include shutdown systems to shutdown the reactor safely; combination of active and passive (systems working on natural phenomena and not needing motive power or operator action) cooling systems to remove heat from the core of the reactor at all times, and a robust containment to prevent release of radioactivity in all situations. In addition, all nuclear power plants are designed to withstand extreme natural events like earthquake, flooding, tsunami etc.

(b) A multi-tier safety mechanism comprising safety review committees within Nuclear Power Corporation of India Limited (NPCIL), which is the operator of nuclear power plants, and safety review committees in Atomic Energy Regulatory Board (AERB), the regulatory authority, is in place to monitor the safety of nuclear power plants. In addition, a framework of periodic safety reviews, audits and inspection is in place. Following the March 2011 Fukushima nuclear accident in Japan, safety review of all Indian nuclear power plants was conducted by task forces of NPCIL and the expert committee of AERB. These safety reviews have confirmed that Indian nuclear power plants are safe and have adequate margins and features in design to withstand extreme events like earthquakes and tsunamis.

(c) The designs of Nuclear power stations located in coastal areas take into account the technical parameters related to earthquake, tsunami, storm surges, floods etc. at the respective site. Appropriate bunds are provided at Tarapur, Kalpakkam and Kudankulam sites for shore protection. The shore protection measures are designed and constructed to withstand the possible impact of natural events. Surveillance of these protection measures is carried out periodically.