GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO-3047
ANSWERED ON 19/03/2026

SAFETY STANDARDS IN NTPC'S NUCLEAR PROJECTS

3047. DR. M. DHANAPAL

Will the PRIME MINISTER be pleased to state:-

(a) Whether the Government has examined the regulatory and safety framework of the Atomic Energy Regulatory Board (AERB) and other statutory bodies to ensure that NTPC's nuclear projects meet national and international safety standards;

(b) If so, the details of specific protocols, periodic inspection mechanisms and compliance benchmarks set by the Government for emerging nuclear projects; and

(c) The details of Government's planned outreach to local communities, States hosting nuclear sites and educational institutions to promote awareness, training and local economic participation in nuclear energy deployment?

ANSWER

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

(a) and (b)

Atomic Energy Regulatory Board (AERB) has established regulatory requirements for nuclear & radiation safety for all types / designs of Nuclear Power Plants (NPPs) being established in India. These requirements are generally technology and entity neutral. The requirements take account of international benchmarks including the safety standards of International Atomic Energy Agency (IAEA). NPPs in India are sited, designed, constructed, commissioned & operated in conformity with the relevant nuclear safety requirements including environmental safety. After satisfactory review during siting, construction and commissioning stages, AERB issues the license for operation to NPP. During the license period, safety performance of an operating NPP is monitored in compliance with regulatory requirements, through safety reviews and regulatory inspections. As per the regulatory requirements, operating NPPs are also required to undergo a comprehensive Periodic Safety Review (PSR), typically every ten years. During the PSR the safety provisions of the NPP are evaluated in comparison with the current safety standards and necessary safety upgrades are identified and implemented.

AERB has a comprehensive Regulatory Inspection (RI) programme to ensure that licensed nuclear facilities operate in compliance with regulatory requirements and meet safety objectives. The programme defines the minimum frequency, scope and depth of routine inspections for each facility. In addition, special or reactive inspections are conducted, as necessary, based on events or specific activities. These inspections may be carried out in either an announced or unannounced manner.

The deviations observed during regulatory inspections are categorized based on their safety significance. Reported deviations are classified into Grey (Low Safety Significance), Orange (Moderate Safety Significance) and Red (High Safety Significance) categories. AERB follows up the reported deviations to ensure the implementation of corrective actions in a time-bound manner, and these deviations are closed after verifying the corrective measures taken by the nuclear facilities.

Further, the regulatory inspection and compliance framework adopted by AERB is technology-neutral and applies to all Nuclear Power Plants (NPPs), including emerging projects, irrespective of the technology or operating organisation. This ensures that all nuclear power plants / projects adhere to the same stringent safety protocols, periodic inspection mechanisms and compliance benchmarks prescribed under the national regulatory framework.

(c) Department of Atomic Energy (DAE) conducts public awareness and outreach programmes for promoting nuclear energy and runs outreach schemes for educational institutions and universities to increase awareness and interest of students in the field of science and technology including coverage of schools under Parmanu Jyoti Programme. Officers from DAE also visit professional colleges and universities to present career opportunities in the field of nuclear science and technologies.

Public awareness programmes are also conducted periodically around nuclear facilities. Visits to plant sites are regularly organised for members of the public, including students, to spread awareness about nuclear energy and eradicate myths. Students from local institutes are encouraged to carry out science projects at Environmental Survey Laboratories. DAE also conducts regular public awareness programmes on nuclear technology and safety by participating in technology exhibitions, distributing radiation safety literature and brochures, and organising awareness drives, journalist meets, stakeholder-focused exhibitions and academic visits on occasions such as National Science Day and National Technology Day.

Nuclear energy deployment also strengthens the local economy. The establishment of new nuclear plants benefit local industries, provide job opportunities for skilled local youths during construction and commissioning stage and increase commercial activities boosting the local economy.

NPCIL, a PSU under Department of Atomic Energy (DAE) is also carrying out a structured public awareness programme across the country, to promote awareness about nuclear power in a credible manner. The focus of the outreach has been on the students & teachers, local community, decision makers & people's representatives, press and media and opinion makers apart from the public at large. Presently, public outreach activities are being taken up adopting a multi-pronged approach on a continuous basis. These activities include visits to school and colleges, NCC camps, site visits, visits to Science Centres, exhibitions, lectures/seminars and miscellaneous initiatives. The efforts include creation of appropriate public awareness materials and their dissemination to all target groups.

In addition, NPCIL provides skill development training as per the Trade Apprentice Act, 1961 at respective NPCIL Plants/Power Stations and through schemes under its Corporate Social Responsibility (CSR).

*****