

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO-1924
ANSWERED ON- 08/08/2024

ENVIRONMENTAL IMPACT ASSESSMENT OF NUCLEAR POWER PLANTS

1924. SHRI TEJVEER SINGH

Will the PRIME MINISTER be pleased to state: -

- (a) the number of existing and upcoming nuclear power plants in the country and the status thereof;
- (b) the new initiatives taken for construction, operation and safety of these nuclear power plants; and
- (c) the manner in which the environmental impact assessment of these plants have been carried out and the details of the measures being taken by Government for environmental protection?

ANSWER

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

(a) There are twenty-four (24) nuclear power plants in operation in the country with a total capacity of 8180 MW. In addition, nine (09) reactors with a total capacity of 7300 MW are under construction / commissioning and ten (10) reactors with a capacity of 7000 MW under pre-project activities.

(b) The Government had accorded bulk sanction for constructing 10 indigenous Pressurized Heavy Water Reactors (PHWRs) of 700 MW capacity each, in fleet mode. The Government is also ensuring availability of adequate amount of fuel for their operation. In respect of safety, highest priority is accorded to it in all aspects of nuclear power viz. siting, design, construction, commissioning and operation. Nuclear power plants are designed adopting safety principles of redundancy, diversity and provided with fail-safe design features following an overlapping defence-in-depth approach. Nuclear power plants are constructed with highest quality standards and the operations are performed adopting well laid out procedures by highly qualified, trained and licensed personnel. There is a robust multi-tier safety review mechanism in place by NPCIL and AERB. Further, improvements/ upgrades are effected in nuclear power plants based on evolving global standards, events and operating experience feedback.

(c) As a part of obtaining Environment Clearance from MoEF&CC for a nuclear power project, a comprehensive Environment Impact Assessment (EIA) study is carried out by an independent professional accredited organization. The project construction is commenced only after obtaining Environmental Clearance. The Environment Management / Conservation Plan as stipulated in the MoEF&CC clearance is implemented. The Environment Management Systems (EMS) at the nuclear power stations in the country are also ISO-14001 certified.

Environmental Survey Laboratories (ESLs) are established at all atomic power station sites under DAE well before the commissioning of the reactor. ESLs carry out pre-operational survey around the plant-site up to a distance of 30 km radius to establish the pre-operational baseline radioactivity levels around the site. During operating period of the reactor, environmental samples such as air, water, soil, vegetations, agricultural produces, milk, meat and other dietary products are collected periodically and analyzed for radioactivity to assess the impact of operation of the plant on the surrounding environment and the public. ESLs are equipped with highly sensitive instruments and sufficient infrastructure to analyze extremely low levels of radioactivity in environmental samples. The radioactivity levels in environmental samples are compared with pre-operational values in the respective matrix for assessment of impact on environment.
