

**GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA**

UNSTARRED QUESTION NO:4800

ANSWERED ON:25.08.2010

HANDLING OF RADIOACTIVE MATERIALS

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Will the Minister of ATOMIC ENERGY be pleased to state:

- (a) whether the workers engaged in the nuclear plants and facilities as well as those handling radioactive materials directly or indirectly, knowingly or unknowingly, are the first victims of the radiation;
- (b) if so, the reaction of the Government thereto;
- (c) the details of accident cases, noticed during the last two years related to nuclear energy waste; and
- (d) the amount spent by the Government on disposal of nuclear waste in the country during the said period?

Answer

THE MINISTER OF STATE FOR SCIENCE & TECHNOLOGY AND EARTH SCIENCES (INDEPENDENT CHARGE), PMO, PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS AND PARLIAMENTARY AFFAIRS(SHRI PRITHVIRAJ CHAVAN):

(a) & (b) By virtue of their proximity to radioactive materials and nature of work, the workers engaged in the nuclear plants and facilities do have a potential for exposure to radiation. Recognising this, a number of safety measures (both engineered and administrative) and controls are built into these plants and facilities with the objectives of avoiding accidental exposures to any worker or other personnel.

The plants and facilities are designed, constructed and operated such that entry to highly radioactive areas is not allowed during unit operation. The built in safety of the nuclear power plants with defense in depth features, radiation shielding provision, stringent operating requirements, adequate & continuous radiological safety surveillance and strict compliance to radiation protection procedures by individual workers at work radiation exposure is received by occupational worker allowed only for trained and qualified persons. Also, adequate emergency preparedness and response mechanism enforces the relevant rules and practices with respect to radiation protection at these plants and facilities. No worker is allowed an internationally allowed limits which confirms to be safe from any impact on health of person. Radiation workers are regularly monitored.

By the above measures, there is no undue risk to the radiation workers in Nuclear Power Plants and facilities.

(b) There has been no accident cases related to radioactive waste in Nuclear fuel cycle facilities in last two years.

(c) The cost of disposal of nuclear waste involves storage, segregation, transportation, volume reduction, treatment and disposal. In the country, the nuclear waste is disposed at the nuclear installation itself. In a twin 220 MWe PHWR reactor about 50-60 m³ of radioactive solid waste is disposed off annually. Also, about 30, 000 M³ of liquid effluent are treated to remove bulk of the radioactivity. The remaining effluents which are virtually free from activity are discharged annually after monitoring within the limits set by the regulatory authorities. The annual cost of disposal of waste at a reactor site is about Rs.55 lakhs on solid waste and about 40 lakhs on liquid waste.