GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO.2224
TO BE ANSWERED ON 04.03.2020

PUBLIC HEALTH HAZARD IN URANIUM MINES

2224. SHRI RAJIV PRATAP RUDY:

Will the PRIME MINISTER be pleased to state:

(a) whether the Government has reports of hazardous activities like radio-active slurry being stored in the open, causing health hazards to people residing in adjacent areas of uranium mines in the country and if so, the details of each such report;

(b) the details of the action taken thereon;

(c) the details of norms to be followed at uranium mines in the country;

(d) whether the Government has conducted audits with regard to mining norms in these mines; and

(e) if so, the details of each mine's audit report thereof?

ANSWER

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

(a) No, Sir.

(b) Does not arise in view of (a) above.

During recovery of uranium from the ore in a uranium mill, tailings containing low level radioactivity get generated which are transported to tailings pond in the form of slurry. The tailings ponds are engineered valley-dam structures, which are under continuous radiological surveillance. In the tailings pond, the solids settle down and the supernatant liquid is routed to an Effluent Treatment Plant (ETP). Only treated effluents conforming to discharge limits

are discharged into the environment. After extracting the uranium from the ore, the coarse fraction of the tailings is backfilled in mines and remaining treated tailings in the form of slurry is stored in engineered tailing impoundment facility (tailings pond). The effluent from the tailings pond are further collected, treated and re-used in the process. The remaining of the treated effluents is monitored to ensure that they meet the regulatory limits before discharge to the environment. Regular environmental monitoring around the uranium mining facilities is carried out by the Health Physics Laboratory to ensure that the impact of the mining operations in the surrounding areas is negligible. Depending on the characteristics of the residue and site conditions, the design features of tailing impoundment facility are decided. The restricted area of the tailings impoundment facility is kept under regular surveillance by Uranium Corporation of India Limited and Health Physics laboratory of Bhabha Atomic Research Centre. The population residing around such facilities has not been found to have any health hazards due to associated radioactivity in the tailings. Regular radiation monitoring is carried out by the Health Physics Laboratory set up at the site by the Bhabha Atomic Research Centre. Monitoring reports related to radioactivity / radiation are prepared and submitted to the regulatory authority, Atomic Energy Regulatory Board (AERB) to ensure that the impact of the mining operations in the surrounding areas is negligible.

(c)The uranium mines of the country are governed by various Acts, Rules and Regulations. The regulatory bodies like Directorate General of Mines Safety (DGMS) and the Atomic Energy Regulatory Board (AERB) enforce compliance of the statute.AERB regulates uranium mines from radiological safety considerations under the enabling provisions of the Atomic Energy (Radiation Protection) Rules, 2004 and Atomic Energy (Safe Disposal of Radioactive Wastes) Rules, 1987. The radiological safety norms applicable to uranium mines are specified by AERB in various regulatory documentssuch as ‘Radiological Safety in Uranium Mining and Milling’, Management of Radioactive Waste from Mining and Milling of Uranium and Thoriumetc.

(d)&(e)Yes,Sir. AERB carries out regulatory inspection of the uranium mines minimum once in a year to check the compliance with the requirements and stipulations stated in Licence issued under the Atomic Energy (Radiation Protection) Rules, 2004 and to verify the stipulations in Authorisation under Atomic Energy (Safe Disposal of Radioactive Wastes) Rules, 1987. In addition to regulatory inspections, special inspections are also carried out on case-to-case basis.

The details of inspections of Uranium Corporation of India Limited (UCIL) mines carried out by AERB during the last 3 years are given below:

Sr.No.	**UCIL Mines**	**Inspection Period [Financial Year]**		
		2017-18	**2018-19**	**2019-20**
1.	**UCIL Mine- Jaduguda**	February, 2018	December, 2018	October, 2019
			January, 2019	November, 2019
2.	**UCIL Mine- Turamdih**	February, 2018	January, 2019	January, 2020
3.	**UCIL Mine- Bhatin**	February, 2018	December, 2018	November, 2019
			January, 2019	February, 2020
4.	**UCIL Mine-Bagjata**	August, 2017	February, 2019	February, 2020
5.	**UCIL Mine-Banduhurang**	February, 2018	January, 2019	February, 2020
6.	**UCIL Mine-Mohuldih**	February, 2018	January, 2019	February, 2020
7.	**UCIL Mine-Narwapahar**	February, 2018	January, 2019	February, 2020
8.	**UCIL Mine-Tummalapalle**	November, 2017	January, 2019	November, 2019

The important findings of the inspections are published regularly in AERB's Annual Reports. The requirements with respect to monitoring of workplace, effluent, environment and radiation dose estimation of occupational workers is being complied with in all mines. Radiation doses of occupational workers in uranium mines are found to be well within the dose limits specified by AERB.

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