

(c) Main areas of research proposed to be covered during Twelfth Plan are Accelerators, Super Computing, Chemical Sciences, Basic Sciences, Materials, Fuels, Waste Disposal, Electronics and Instrumentation, Fast Reactor Technology, Metallurgy and Materials Science, Reactor Design and Safety Engineering, Engineering Services and Infrastructure, Reactor Operation and Resource Management, Advanced Nuclear Reactors, Food Preservation, Life enhancement of Nuclear Power Plants, Radiopharmaceuticals, Cancer, International Collaboration in Advanced Fields, Nuclear Safety. A total number of 254 new projects have been proposed under the R&D Sector of the Department during Twelfth Plan. The approved outlay for the Twelfth Plan (R&D Sector) of DAE is Rs.19,878 crore.

Uranium mining waste

1399. DR. T.N. SEEMA: Will the PRIME MINISTER be pleased to state:

(a) whether it has been reported that heaps of uranium mining wastes have been abandoned in Dhodanga, Kerwadungri villages and around Banduhurang open cast mine in Jharkhand by the Uranium Corporation of India Ltd. (UCIL); if so, the details thereof;

(b) whether the sludge and waste (containing 85% radioactive substances) from these uranium mines are being scientifically disposed of;

(c) if so, the details of the scientific disposal with the total number of fenced tailing ponds created in Jharkhand's Jaduguda area; and

(d) the complete details of periodic inspection of UCIL in this regard by the Atomic Energy Regulatory Board (AERB)?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY): (a) No, Sir.

(b) Yes, Sir. Solid wastes from uranium mines containing very low amount of radioactivity (less than 0.015% of Uranium Oxide U_3O_8) are scientifically disposed.

(c) The sludge and waste from the mines of Uranium Corporation of India Limited (UCIL) are disposed off in specially designed waste dumps within UCIL's premises, in accordance with Atomic Energy Regulatory Board (AERB) guidelines. The dumps are constructed as per Directorate General of Mines Safety (DGMS) and AERB norms. Liquid wastes from mines are sent to Effluent Treatment Plant (ETP) of uranium ore processing plant (mill) for treatment. The treated effluent from

ETP is discharged only after conforming to the regulatory norms. Uranium mill generates tailings. Coarse parts of tailings are sent to underground mines for filling voids. Fine parts of tailings are sent into special engineered structures known as tailing ponds. At tailings pond, the fine tailings settle down and the clear supernatant is directed to ETP. The treated effluent from ETP is discharged only after conforming to the regulatory norms. There are three tailing ponds in Jaduguda area. These tailing ponds are designed based on detailed analysis of structural stability under worst case meteorological and seismic conditions. During the design, it is ensured that all measures are in place to avoid migration of radioactivity into groundwater. The concept of defence in-depth has been introduced in the latest design of tailing ponds by having a check dam as a secondary containment. The tailing ponds are fenced to prevent unauthorized access.

(d) AERB has an established procedure for carrying out regulatory inspections. It carries out regulatory inspections of all the uranium mines of UCIL once in a year; and uranium mills and tailing ponds twice a year. In addition, periodic review of the projects and the operating plants is carried out by various expert committees constituted by AERB.

Power generation from Kudankulam power plant

1400. SHRI V.P. SINGH BADNORE: Will the PRIME MINISTER be pleased to state:

(a) whether the Nuclear Power Plant at Kudankulam has become functional and started generation; if so, the details thereof;

(b) the total capacity of the Kudankulam Nuclear Power Plant and when would it generate power to its full capacity; and

(c) the details of sources supplying the nuclear fuel for the plant?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY): (a) and (b) Kudankulam Nuclear Power Project (KKNPP) comprises of two units of 1000 MW each. The Unit-1 of the project has attained first criticality (commencement of controlled self-sustaining fission chain reaction for the first time) on July 13, 2013. Following the criticality, low-power physics experiments have been completed as per the laid down procedures. The reports of these tests were submitted to Atomic Energy Regulatory Board (AERB) for review