

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTIONNO.483
TO BE ANSWERED ON 06.02.2020

VISION AND ROADMAP FOR NUCLEAR TECHNOLOGY IN INDIA

483. DR. SASMIT PATRA:

Will the PRIME MINISTER be pleased to state:

- (a) what is the vision of Government for augmenting and developing nuclear technology in India;
- (b) what is the roadmap and strategic goals for nuclear technology of India; and
- (c) what are the actionable areas, objectives and challenges that Government is working on in this regard?

ANSWER

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

(a),(b)&(c)The activities of the Government for nuclear technology has been categorized into ten major visions. These visions encompass almost every major programme, which broadly covers various domains of application of nuclear energy for power and non-power applications, besides basic research in the frontier areas of Science and Technology, which are beneficial to mankind.

The actionable areas and objectives and challenges under various vision programmes are:-

Vision-1: First Stage of Indian Nuclear Power Programme.

Technologies and project activities related to fuel fabrication, Quality Assurance (QA), In-Service Inspection (ISI), Post Irradiation Examination (PIE), Inspection tools and technology for research reactors and nuclear power plants.

Vision-2: Uranium and Rare Metals-Exploration, Mining & Milling.

Technologies, plants and project activities related to front end of nuclear fuel cycle (excluding fuel fabrication) for Uranium and rare metals exploration, mining and milling.

Vision-3: Second Stage of Indian Nuclear Power Programme

Technologies related to back end of nuclear fuel cycle which includes spent fuel reprocessing to obtain fissile material usable for fuel fabrication of fast breeder reactor, nuclear waste disposal after recycling and storage. It also

includes project activities and safe operation of spent fuel reprocessing facilities and waste management facilities.

Vision-4: Health Care

Nuclear technologies for production of radioisotopes and its application for diagnostic and therapeutic purposes (especially for cancer treatment) as societal benefits.

Vision-5: Food Security

Nuclear technologies developed for improving food production and preservation for ensuring food security. Technologies include seed mutation using radiation to develop high yielding & disease resistant crop varieties, food irradiation, food processing and food packaging for longer shelf life of food.

Vision-6: Water & Waste Management

Technologies related to water and waste treatment for Swachh Bharat mission. This vision includes various technologies water purification, gamma irradiation for hygienisation of municipal sludge, plasma incineration of solid waste, Nisargruna for biodegradable waste etc.

Vision-7: Mega Science Schemes

Mega Science projects such as MACE telescope, TACTIC telescope and collaborative activities related CERN, INO, LIGO, RCA, IAEA etc.

Vision-8: Basic Research and Science Education

Activities related to basic research in Physical Science, Chemical Science, Material Science for nuclear applications.

Vision-9: Directed Research

Technological support to external agencies and DAE units. This involves R&D in specialized areas for nuclear power, nuclear application for societal benefit or programmes of national interest apart from the R&D Infrastructure Development& Management, Computing & Communication, technologies and administration related to Radiation Monitoring and Safety Regulation.

Vision-10: Social Outreach and Awareness

Technology transfer of spin-off technologies and outreach programmes to spread awareness among the Indian citizens.

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