PARLIAMENT QUESTION: INVESTMENT IN ATOMIC RESEARCH FACILITIES

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Initiatives taken by the present government to expand nuclear applications in the field of medicine and industry:

Multifaceted initiatives of the Government has facilitated the domestic developments in the field of nuclear medicines such as high specific activity 131I-mIBG therapeutic dose, medical-grade high specific activity Mo-99, Technicium-99m for diagnostic nuclear medicine practice, I-131 for diagnostic and treatment of Thyroid disorders, Ready to use Ga-68-PSMA radiopharmaceutical for detection and staging of prostate cancer, No Carrier Added (NCA) Lu-177 based radiopharmaceuticals such as NCA 177Lu-DOTA TATE and NCA 177Lu-PSMA-617 for cancer therapy, CS-137 pencils for blood irradiation, Ir-192 based brachytherapy system, Ruthenium-106 plaques for treating ocular tumours, Yttrium-90 glass microsphere for treating unresectable liver cancer, as curative nuclear medicines and Sodium Phosphate-32 based injection and Samarium-153 for effective pain relief in terminally sick cancer patients as palliative care nuclear medicines to name a few.

These initiatives of the Government have also led to development of industrial radiography devices such COCAM-120, COCAM-120(W) and ROTEX-I as import substitutes to support the industry and expand application of nuclear radiation in the country. The Board of Radiation & Isotope Technology (BRIT) signed Memorandum of Understanding (MOU) with the prospective entrepreneurs to set up gamma radiation processing facilities in the country. BRIT supports such facilities by providing radioactive Cobalt - 60 source and dosimetry services on chargeable basis. Totally, forty-two such facilities have been commissioned in the country.

The measures adopted by Indian government to promote indigenous nuclear technology:

Our sustained efforts in the field of nuclear power generation has resulted in full spectrum capabilities in the domain of Pressurised Heavy Water Reactors in which we are self reliant and have established robust indigenous capacity.

The government has approved implementation of 700 MW Pressurised Heavy Water Reactors (PHWR) in the country on fleet mode basis to promote the indigenous nuclear technology. These reactors are designed by NPCIL. All equipment including critical equipment for these reactors are supplied by domestic industries and works executed by Indian contractors.

BHAVINI is currently commissioning a 500 MWe Prototype Fast Breeder Reactor (PFBR) project at Kalpakkam, Tamil Nadu. Government has accorded approval to carry out pre-project activities for 2 x 500 MWe twin unit of FBR 1&2 project at Kalpakkam, Tamil Nadu. These reactors are fully designed and developed with indigenous technology.

The role of Indian institutions in international atomic energy collaborations:

Institute of Plasma Research (IPR) is contributing to The International Thermonuclear Experimental Reactor aiming to prove nuclear fusion as a viable, clean energy source, employing a magnetic confinement device. The GCNEP of DAE is involved in Capacity Building in the field of Nuclear energy. Indian scientists and technologists continue to engage with the international atomic energy community on a wide range of topics related to the peaceful uses of atomic energy, through various multilateral and bilateral forums including the International Atomic Energy Agency.

This information was given by the Minister of State for Personnel, Public Grievances & Pensions and Prime Minister's Office Dr. Jitendra Singh in a written reply in the Rajya Sabha today.

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