

भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड/Board of Radiation & Isotope Technology

विआप्रौबोबीएआरसी वाशी कॉम्प्लेक्स/
BRIT/BARC Vashi Complex,
सेक्टर-20/Sector-20, वाशी/Vashi,
नवी मुंबई/NAVI MUMBAI - 400 703.

सं/Ref: विआप्रौबो/BRIT/सत/Vig/2021/22

January 29, 2021

Sub: Budget Session 2021 of Parliament – forwarding of RS SQ.No. S514 – Reg.

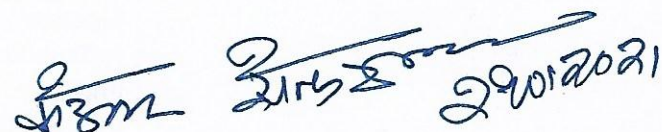
उपरोक्त विषय पर पत्र के दिनांक 19.01.2021 के पत्र सं. 1/1(2)/2021-Parl/S514 की संदर्भ लें। Reference is invited to DAE letter No. 1/1(2)/2021-Parl/S514 dated 21.01.2021 on the captioned subject.

विआप्रौबोर्ड से संबंधित अपेक्षित जानकारी इस प्रकार है। The requisite information in respect of BRIT is as follows:

Sl. No.	Question	Reply
a)	Whether Government is using radiation technology developed by nuclear scientists for societal uses in a big way;	The Department of Atomic Energy, Government of India continues to make vital contributions in the use of radioisotopes and radiation technology for societal benefits. Radiation technology using Radioisotopes has several important applications in the fields of healthcare, industry and agriculture. Applications in Healthcare Radioisotopes which are produced in the nuclear reactors in India have significant applications in healthcare. There are two major specialities of medicine, radiation oncology (Teletherapy, LINAC) and nuclear medicine, which utilize radioisotopes (RI) extensively. Cobalt-60 based teletherapy and LINAC units for radiation therapy for cancer are extensively deployed in India. Around 40 such units are in operation in India most of them being in the government hospitals. Another important support to healthcare is in the sterilisation of medical products and devices by irradiating them using high-intensity Cobalt-60 sources. ISOMED under DAE is providing this service since 1974. The plant offered gamma sterilization services to nearly 1600 customers spread all over the country. Nuclear medicine is another important area which utilizes radioisotopes in the form of radiopharmaceuticals for diagnostic imaging or therapy. Around 324 Nuclear Medicine centres are operational in the country which employ these radiopharmaceuticals for patient diagnosis or treatment, among which 59 centres are in government domain. Applications in Industry The role of radioisotope-radiation technology (RI-RT) in industry is in two major areas: (i) aiding industrial process management and (ii) radiation processing (RP) of materials. Examples for the former category are: RI tracer studies in industry for detection of leakage, blockage, assessment of wear and tear, etc. This area also includes gamma scanning of large columns in petrochemical industries to identify malfunctioning as well as for trouble-shooting. In addition, nucleonic gauges are used for on-line process control and quality control. Radiography using radiation equipment contains
b)	If so, the details thereof;	

		<p>radioisotope sources such as ^{192}Ir (most common), ^{60}Co (for high-density, thick objects), is a very widely-used technique for the non-destructive testing (NDT) of welds, castings, machine parts (e.g. aeroplanes), etc. Around 24 government centres are using radiation technology for NDT of materials. Laboratory Research Irradiator, called gamma chamber (GC), containing ^{60}Co source for radiation research studies and low dose rate gamma chamber unit of ^{60}Co for blood irradiation (BI) are used in hospitals and many educational and research centres. Around 324 institutes have benefited from the radiation technology services offered by nuclear scientists of the country. Nearly 100 centres are under the government.</p> <p>Another major area is radiation processing (RP) plants and associated technologies and practices. DAE has set up two industrial scale technology demonstration irradiation plants. One gamma radiation plant built by the Board of Radiation & Isotope Technology (BRIT), DAE, in the Year 2000 (1 MCi ^{60}Co capacity) is in commercial use, for radiation disinfestation of spices and other food-products (30 tonnes/day). Another plant for low dose irradiation (<1kGy) to prevent sprouting in onions (and potatoes) as well as for improving the shelf life of many other products (pulses, cereals, spices etc.) named KRUSHAK (Krushi Utpadan Sanrakshan Kendra), commissioned in Lasalgaon, near Nashik, is in operation since 2002 (10 tonnes/h). This plant is also being used for phytosanitary treatment of (alphonso) mangoes.</p> <p>Making use of the technological support rendered by DAE through BRIT, there are 5 gamma radiation-based food processing units (0.5 to 1 MCi capacity) set up in government sector (in most cases handling both food and medical products).</p> <p>DAE Units (RRCAT, BARC) have developed an electron beam (EB) system which is installed by RRCAT in Indore agro-market area and is the 1st large-capacity indigenous electron accelerator-based radiation processing facility for food and agro-products.</p>
c)	Whether Government has created a global cancer care network for the cure of disease; and	Not pertaining to BRIT
d)	if so, the countries which have joined the network and what is the extent of interaction between them?	

यह मुख्य कार्यकारी, विआप्रौबोर्ड के अनुमोदन से जारी किया जाता है। This is issued with the approval of Chief Executive, BRIT.



(के.आर. सेतुरामन/K.R. Sethuraman)

मुख्य प्रशासनिक अधिकारी/Chief Administrative Officer
Tel. No. 022-2788 7007

निदेशक/Director,
संसद अनुभाग/Parliament Section,
परुवि/DAE, अणुशक्ति भवन/Anushakti Bhavan,
छ.शि.म. मार्ग/C.S.M. Marg, मुंबई - 1/Mumbai - 1.