

Annual Report 2008 - 2009
Board of Radiation and Isotope Technology

Executive Summary

CH 4 Radiation Technologies & Applications

During 2008-2009, more than 52,000 consignments of various isotope products and round the clock radiation processing services were provided to customers across the length and breadth of the country as well as some located abroad bringing in a sales turnover of over Rs. 4500 lakhs.

New Radiation Processing Plants in Private Sector



6th Radiation Processing Plant comes up in the Private Sector by Agrosurge Irradiators Pvt Ltd, Vasai

Two more Radiation Processing Plants were commissioned with the help of BRIT this year – one by M/s. Agrosurge Irradiators (India) Pvt. Ltd. at Vasai near Mumbai and the other by M/s. Gamma Agro Medical Processing Pvt. Ltd. at

Hyderabad. With this, now there are seven such plants fully in private sector

in the country. Apart from this, four plants are under various stages of construction. In addition, site clearance has been given by Atomic Energy Regulatory Board for seven more parties for such Plants in various parts of the country. Two more MOUs were also signed with private parties this year for setting up of such plants.



7th Radiation Processing Plant in the Private Sector by Gamma Agro Medical Processings Pvt Ltd, Hyderabad

Contract for Multipurpose Gamma Irradiator at Colombo, Sri Lanka



Agreement with Min. of Sc & Tech for 3 Mci Multipurpose Irradiator, Sri Lanka

An agreement has been signed between Ministry of Science & Technology, Sri Lanka and M/s. Symec Engineers (India) Pvt. Ltd., Mumbai for construction of a 3 MCi Multipurpose Gamma Irradiator Facility at Colombo, Sri Lanka. M/s. Symec Engineers (India) Pvt. Ltd., Mumbai had submitted a joint bid after taking a quotation from BRIT for 150 kCi of Co-60 source pencils and radiation related expert services. The

total contract is worth US\$1340,000 crores of which BRIT's part is US\$430,000.

Also the Atomic Energy Research Establishment, Bangladesh has placed an order for additional Co-60 source and associated works worth US\$244,869.

Health Care

16,500 consignments of ready to use radiopharmaceuticals of Iodine-131, Phosphorous-32, Chromium-51 and Samarium-153 were supplied to various Nuclear Medicine centers. Majority of these contained Iodine-131 radiopharmaceuticals, which amounted to about 550 Ci; 15000 consignments. 400 Ci of Mo-99 (TCM-2) was supplied for extraction of Tc-99m at hospitals. In addition to this various accessories of Tc-99m-Solvent extraction generator system and other products were supplied. About 52,000 Cold Kits for the formulation of Tc-99m radiopharmaceuticals (Code-TCK; 11 products) were supplied to various Nuclear Medicine centers worth Rs. 3.0 crore.

The ongoing work of monoclonal antibody (ch TNT 1/B) labeling with iodine-131, for M/S. Peregrine Pharmaceuticals Inc., USA is continuing. During 2008, labeled product worth US\$ 217,000 were made. In 2008, for the production and supply of ^{131}I -mIBG (therapeutic doses) was regularized.

About 10,000 kits of RIA and IRMA were supplied during the year to 300 immunoassay laboratories throughout the country.

Nuclear & Biotechnological Tools

At BRIT, a solid phase immunoradiometric assay (IRMA) Kit for the estimation of Ferritin in human serum based on magnetizable cellulose separation system, a quick, user-friendly assay system with ready to use reagents which can be carried out in laboratories with bare minimum facilities in remote and rural areas (without continuous power supply) has been developed.

Custom synthesis of several ^{14}C , ^3H and ^{35}S labeled compounds was carried out successfully. The supply of enzyme, Taq DNA polymerase prepared at JONAKI, Hyderabad was continued through Labeled Compound Laboratory and sales showed a steady increase during the year.

Nuclear Medicine: Cancer diagnostic & treatment services

19 teletherapy sources had already been sold upto December 2008 and it is expected that another 4 sources will be supplied to Cancer Hospitals in India fetching a sale value of Rs. 6 Crore by March 2009. 700 cm (3 Ci) ^{192}Ir -Pt wire has been supplied and 500 cm (2.5 Ci) is expected to be prepared and supplied to various hospitals and medical research centres for the treatment of cancer.



Radioisotope Sources

During April-December 2008, sealed radiation sources of total activity of about 500 kCi were fabricated, processed and supplied for use in various types of industrial applications. BRIT has entered into an MOU with BSF, Gwalior for supply of tritium filled sources for different type of equipment used by them. BRIT has also helped BSF, Gwalior

*MoU with BSF, Gwalior
for Supply of TFS Sources*

to set up a dedicated TFS Facility at their Tekanpur, Gwalior Complex.

Portable Radiography Exposure Device ROLI-III launched



BRIT has launched a 20Ci ¹⁹²Ir portable radiography exposure device which was developed indigenously. This will compliment 35 Ci mobile device already being manufactured and supplied by BRIT.



*Portable Radiography
Device Development*

Gamma Radiation Processing Services

ISOMED continued to offer prompt and efficient gamma sterilization services to large numbers of customers spread all over the country. About 5000 cubic meters of different types of products were processed between April 2008 and December 2008 generating a revenue of Rs. 207 lakhs. By March 2009, the plant is expected to process around 8300 cubic meters of medical products yielding a revenue of Rs.280 lakhs.

In KRUSHAK Plant at Lasalgaon, mango processing was carried out in Public Private Partnership mode during the last season. During this period the plant operation was very smooth. In 60 working days, 255 tonnes of mangoes were irradiated. The turnover during the mango season was Rs. 28.7 lakhs.



*PPP Agreement for
Mango Irradiation
at KRUSHAK*

Radiation Processing Plant, Vashi provided radiation processing services to more than 125 customers from all over the country. During the current financial year, about 857 MT of spices and allied products were processed till November 2008 generating a revenue of about Rs.52 lakhs. This plant is expected to process around 1500 MT spices and allied products in this financial year yielding a revenue of about Rs.100 lakhs.



A specially chartered flight of Qatar Airways took one Gamma Chamber to Republic of Yemen on January 16, 2009 as part of an IAEA Order worth US\$235000. This is the first time that GC-5000 has been sent by air and that too by a chartered flight. The GC-5000 has reached safely.

*GC-5000 goes by chartered
flight to Yemen*

Customer Support Services Cell

During the year 2008-09, Customer Relationship Cell (CRC) continued serving customers and made it more convenient to customers to interact with the officials of BRIT and regulatory authorities in matters relating to procurement and use of radioisotope products and equipment. The retail outlet for supply of cold kits set up for the benefit of nuclear medicine user institutions in and around Mumbai continued serving customers. In addition to the retail outlets existing at Project House and Hyderabad, another retail outlet was started at RCR, Delhi.

The transportation of about 52,000 consignments of radioisotope and allied products, majority of them by air, was carried out in a safe manner. Major transportation activities carried out during the year includes movement of kilocurie amounts of radioactive sources from RAPPCOF, Kota to Mumbai, Mumbai to Vadodara and Mumbai to Ambarnath ; teletherapy sources from Mumbai to various cancer hospitals in the country and Gamma Chamber and Blood Irradiator units to various research centres and hospitals.

Radioisotopes and allied products supplied by BRIT

Sr.No	Item	Actual between April-December, 2008	Expected to be achieved April,2008 – March, 2009
1	Consignments	43110	≈ 52000
2	Activity	459 kilo curies	≈ 800 kilo curies
3	Sale Value	Rs.3028 lakhs	>Rs.4500 lakhs