

Radiation safety: Radiation surveillance was provided to all radiation facilities to ensure radiation safety of staff and workers. During this period (July to Dec., 2022) radiological surveillance was provided during the operation of the synchrotron radiation facilities and their beamlines. Induced radioactivity measurement on accelerator components and performance check of area radiation monitors & survey meters were carried out during Indus shutdown. Personal dosimetry for 511 workers (including temporary) was carried out during the period. The biometric data of 40 new radiation workers was uploaded on National Occupational Dose Registry System. From the dose data, the maximum individual dose recorded is 0.20 mSv, which is well within acceptable limit. Quarterly testing of various equipment /instruments of Radiation Emergency Response Centre was carried out and kept in a preparedness state for responding to any radiological emergency. Lectures were delivered to Training Qualification and Licensing Programme (TQLP) Trainees (Level-3, 4 & 5) for Indus operation during the period. Elementary training on radiations protection were imparted to 160 users of synchrotron radiation source of Indus-1 and Indus-2. Training programme on radiation safety to ARPF staff was delivered at ARPF complex on 20th December 2022. The environmental radiation monitoring data from 11 locations of RRCAT campus and ARPF site indicated no increase in radiation level due to operation of the radiation facilities.

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N.11: Fire safety activities at RRCAT

The following important fire safety promotional activities were carried out during July to Dec., 2022:

First-aid firefighting training: First-aid firefighting training along with Breathing Apparatus donning & doffing were conducted and the training was given to 97 RRCAT Employees at Fire Station.



First-aid firefighting training program for RRCAT employees.

On job Fire Fighting Training for Technical Qualification and Licensing Program (TQLP): During Technical Qualification and Licensing Program (TQLP), a lecture on Indus fire emergency procedures and on job firefighting training were conducted. 46 round-the-clock shift employees were trained for fire emergencies.



On job firefighting training to RRCAT employees.

Fire mock drill: Three fire mock drills were conducted at MDL building, Chemical Treatment Facility and R&D Block-C in the scenario of electrical fire, spillage of sulphuric acid and fire set by terrorist, respectively.



Fire mock drill at Chemical Treatment Facility.

Firefighting at different locations: During this period the fire crew of Fire and Safety Section, RRCAT promptly attended 03 fire calls, which include R&D Block-B, 132 kV Substation and RRCAT Medical Centre. Fire was successfully controlled & extinguished within few minutes.

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N.12: Clean and Green Campus Activities at RRCAT

The symbiotic relationship between nature and human life is the basis of our existence on the planet Earth. In this direction, sustained efforts have been made over the years to develop a clean, green and beautiful RRCAT campus by developing gardens, parks, lush green playfields and landscapes, and large-scale planting of trees. This year also, during the monsoon season, a massive tree plantation program was undertaken in RRCAT technical area on the backside of the HBNI Building with the aim of protecting the environment and improving the biodiversity of the campus. The plantation campaign was kick started on 8th July 2022 by Dr. Anil Kakodkar, Chancellor, HBNI, and former Secretary, DAE, and Chairman, AEC, by planting a sapling of Kapoor (cinnamomum camphora) during his visit to RRCAT for inauguration of the Light Exploratorium at Sukhniwas Palace. Thereafter, a massive tree plantation at this site on September 6, 2022, which was graced by members of the Director's Advisory Committee (DAC) and the support was provided by the members of the Advisory Committee for Clean and Green Campus (ACCGC) of RRCAT, and the staff of the Horticulture Section. The theme of plantation was “Miyawaki afforestation”, which is a high density tree plantation scheme aimed at creating a multilayered urban forest using native tree species with a thrust on beauty, colour, canopy, shape, texture and foliage. Plants selected in this drive were trees and shrubs, which grow 10 times faster and 30 times denser than the traditional ones, and have ornamental value. The selected varieties require upkeep for only the first three years and thereafter grow on their own and require minimum care. For this purpose, a combination of perforators, water retainers and fertilizers are mixed with the existing soil. Perforator materials such as left-out shrubs/hedges on pruning, lawn clippings, dried/defoliated leaves, aquatic weeds allow the plant roots to grow quickly and also allow the soil to retain more moisture and water in comparison to the soil's natural water retention capacity. About 150 MT organic garden waste was used for development of the Miyawaki forest at the plantation site near HBNI building. Different types of species were planted to enrich the biodiversity of the area, which include Arjuna, Neem, Maulsari, Pilkhan, Siris, Milletia, Kachnar, Imali, Putranjiva, Behara, Jamun, Wood apple, Gondi, Mahua, Aam, Harsingar, Bamboo, Kathal, Palash, Harra, Guava, Chirol, Bijasal, Khirani, Gardenia, Caesalpinia, Murraya, etc. In all, about 1500 plants of 75 heterogeneous species were planted during the campaign with a special focus on rare and endangered flora of Madhya Pradesh. Plants used in the

campaign were raised and reared in-house in the RRCAT nursery. The plantation area at this site is equipped with an innovative deep-root drip irrigation technique, which helps in water conservation.



Dr. Anil Kakodkar, Chancellor, HBNI, and former Secretary, DAE and Chairman, AEC, planting a sapling during his visit to RRCAT. Dr. S. V. Nakhe, Director, RRCAT (4th from left) and senior officers accompanying the Chief Guest.

Periodic cleanliness drives are undertaken in RRCAT to keep the campus clean. The objective of the 'Cleanliness Campaigns' is to take up sanitation initiatives, mobilise people and reinforce the mass movement for cleanliness to contribute to Mahatma Gandhi's dream of a clean India. In this regard, a special cleanliness campaign was undertaken in RRCAT premises during 2nd to 31st October, 2022. The importance of maintaining cleanliness in-and-around our working as well as residential areas has become even more important in the light of COVID-19 pandemic. All the Divisions in RRCAT technical area actively participated in this cleanliness campaign, which included cleaning inside-and-around each building, rearrangement of equipment in the Labs for efficient utilisation, cleaning of working tables and sitting places, floor cleaning, proper routing of cables and hose pipes, identifying the non-functional materials and shifting it to a selected place to declare them as scrap, cleaning of windows and pelmets of Labs and sitting rooms, and dusting of roofs and walls.



A few RRCAT staff members assembled after the cleanliness drive in-and-around their building.