




Health and Safety at the core of Nuclear Programmes



We are delighted to bring out this issue on Health Safety & Environment Group (HS&EG), which has the service mandate of providing radiological and environmental surveillance for all radiation facilities in the realm of Department of Atomic Energy, and at times, other non-governmental institutions as well. This calls for constant upgradations in systems, techniques and computations that are utilized to meet the ever-increasing requirements of the radiation related applications. During the journey spanning over six decades, the Group has become self-reliant in achieving its goals. BARC, being the designated institute for ionizing radiation in the country, provides services related to standardization of radiation sources and calibration of radiation measuring equipments, by way of in-house developed primary and secondary standards. We have a completely indigenous personnel monitoring programme based on the $\text{CaSO}_4(\text{Dy})$ thermoluminescent phosphor, that includes the development of material, reading system and setting up of laboratories to cater to provide services to non-DAE institutions engaged in radiation related work. The important element of quality assurance is inbuilt at each stage of this programme. Several need based experimental analytical techniques have been established for assessment of radioactivity in various types of matrices. The internal monitoring assays and biosimetric techniques are at par with those available at well-established international institutes. These are not only used for routine monitoring of radiation workers, but also can be geared up for monitoring of personnel involved in radiation/nuclear emergency scenarios.



This compendium of twelve articles encapsulates the activities that are being undertaken in HS&EG with a view to give a flavor of the advancements being pursued towards technological developments, capacity building, and human resource development. Ongoing research and development studies towards medical applications such as radiotherapy and cytogenetics based clinical diagnosis have been touched upon. Interesting news snippets from around the world, based on published peer reviewed work, related to the theme of the issue have been included.



We are thankful to the members of HS&EG for their contribution to this thematic issue and appreciative of the meticulous effort put in by the reviewers in ensuring the quality of the contents. We are optimistic that the contents showcase a vivid state-of-art activities that will inspire the young researchers to come up with innovations to address the gap areas and contribute positively.

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