

## REPROLAM in Latin America and the Caribbean to Strengthen Occupational Radiation Protection



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The safe use of ionizing radiation greatly benefits the society. In medicine, it contributes to the health of individual patients and the general health of populations that have access to radiation technology.

While nuclear and radiation safety is a national responsibility, Member States determine their national priorities and decide in which areas they want to benefit from nuclear science and technology such as in human health, food and agriculture, energy as well as industry.

As the pace of technological development in radiation is extremely rapid, scientific research and development play an important role in ensuring the safe use of radiation technology. Activities such as the medical uses of radiation, the operation of nuclear installations, the production, transport and use of radioactive material, and the management of radioactive waste must be subject to standards of safety.

The **IAEA** Fundamental Safety Principles and Radiation Safety Standards provide for a strong framework for nuclear and radiation safety globally and serve as an international benchmark to protect people and the environment from harmful effects of ionizing radiation. While not legally binding, many countries use the **IAEA** safety standards<sup>(1)</sup> to establish their regulatory framework to protect the public, workers, patients and the environment from possible harmful effects of ionizing radiation, in healthcare, industrial applications and other areas.

In all areas of the **IAEA** work, the goal is to achieve concrete results that make a clear difference in the lives of the people we serve and to help in development. It is our shared commitment to keep healthcare, industry and research professionals as safe as possible

during procedures involving radiation by expanding capacity building in Member States.

### Capacity building

Skills development through education and training is an essential precondition for the development of a sustainable national infrastructure for radiation safety.

The **IAEA** helps countries build a strong corps of well-trained nuclear and radiation safety specialists who can pass on their expertise to future generations. Since 1958, one year after the **IAEA** was created, more than 50,000 scientists and engineers received fellowships and acquired visiting scientific positions through the **IAEA's** technical cooperation program. Many of these scientists and engineers play a key role in building nuclear science capabilities in their countries.

The current situation of occupational radiation protection in the countries of the Latin American and Caribbean region as gathered by the Radiation Safety Information Management System (**RASIMS**)<sup>(2)</sup> and the Occupational Radiation Protection Appraisal Service (**ORPAS**)<sup>(3)</sup> confirms that important achievements have been obtained thanks to the implementation of the principles and requirements established in the **IAEA** basic Safety Standards. The regulatory framework for the protection of the workers is in place, radiation protection programme are being updated, different methods of radiation monitoring is applied by dosimetry services, radiation protection officers are recognized and duly trained. However, gaps still exist and tangible solutions to promote the creation of networks among the Member

States in order to complement and support the technical cooperation programme implemented in this thematic area in the region.

The current limitations among end-users in industrial, medical and research applications are summarized in the limited implementation of the requirements related to occupational radiation protection; limited coverage of technical radiological protection services (individual internal and external monitoring of exposed workers, as well as monitoring in the workplace). There are also limited management systems applied to radiation safety. It is necessary to continue working on the adequate safety evaluation of the facilities and activities, the introduction of optimization techniques, the promotion of a culture for safety and leadership. Education and training on the subject, both for radiation protection officers and workers and managers, is essential.

## Improving technical support

Technical services supporting the radiological safety infrastructure in the countries continues to improve in terms of the calibration by the secondary standard dosimetry labs. External dosimetry services are effectively addressing the implementation of dosimetry for the lens of the eyes and extremities (hands and feet).

In general, the internal dosimetry services face a continuous challenge – to cover all occupational exposed workers who use unsealed sources. Increasing availability and implementations of retrospective dosimetry methods, quality systems in technical services and unified or centralized national registries of occupational doses are areas of future collaboration.

It is therefore necessary to continue with strengthening of all these services in terms of expanding their capacities for the measurement and calibration of new dosimetric quantities, expanding their coverage, facilitating mutual recognition and verification of technical competence through inter-comparison exercises.

In a dynamic environment of development of information technologies, social networks, specialized websi-

tes and many other initiatives, occupational radiation protection specialists propose the revitalization of **REPROLAM**, the Network for the Optimization of Occupational Radiation Protection in Latin America and the Caribbean.

**REPROLAM** has the following objectives:

- 1- Group persons whose professional activities are carried out in the field of Occupational Radiological Protection.
- 2- Facilitate the exchange of information and an integrated approach to the practical application of the principle of optimization of occupational radiation protection.
- 3- Contribute to the harmonization of occupational radiation protection policies and practices, particularly in relation to the principle of optimization, in the different components of the national infrastructure: users of radiation sources, technical scientific support services and regulatory authorities.
- 4- Promote or support meetings and conferences where the scientific objectives of the Network can be discussed.
- 5- Contribute to the integration and cooperation in relation to the knowledge and specialized services in occupational radiation protection available to the participating countries.
- 6- Support and promote scientific publications dedicated to ionizing radiation applications and radiation protection.
- 7- Organization and support for conducting regional inter-comparison exercises on topics of interest.
- 8- Disseminate the news and results of the Network.

**REPROLAM** is a regional **ALARA** network on the **ORPNET** platform, a network with the ultimate objective of promoting the optimization of occupational radiological protection. It acts as a focal point providing comprehensive knowledge of global, regional and national networks and systems for radiation protection of workers. In addition, the user can also access information on upcoming meetings, latest publications, joint projects, posters and news related to this area.

**ORPNET** disseminates good practices, facilitates the implementation of **ALARA**, supports the exchange of experiences and aims to avoid any overlap of activities at the national and international level.

<https://nucleus.iaea.org/sites/orpnet/introduction/SitePages/Home.aspx>

We kindly invite you to consider REPROLAM and to invite specialists and other interested parties to participate in its activities and initiatives

Together we will continue to share the commitment to protect patient, workers, people and the environment.

(1) <https://www.iaea.org/resources/safety-standards>

(2) <https://www.iaea.org/resources/databases/rasims>

(3) <https://www.iaea.org/services/review-missions/occupational-radiation-protection-appraisal-service-orphas>