International networks for occupational radiation protection

Participants in a 2022 IAEA and International Labour Organization (ILO) conference on occupational radiation protection. (Photo: IAEA)

Why is it important?

Occupational exposure to ionizing radiation can occur in a range of industries, in mining and processing, in medical institutions, in educational and research establishments and in nuclear fuel cycle facilities. The term 'occupational exposure' refers to the exposure of workers incurred in the course of their work.

Networks on occupational radiation protection provide an effective forum for different sectors and regions, for the exchange of valuable information and experiences. The objective of the international networks on occupational radiation protection is to maintain, enhance and develop competencies and skills in radiation protection, with special emphasis on the implementation of the optimization principle for occupational exposures in operations.

What do I need to know?

Many organizations are involved in the field of occupational radiation protection. The IAEA supports several networks to assist Member States in sharing their experience and information with each other.

ORPNET: Occupational Radiation Protection Networks

The IAEA launched a website for Occupational Radiation Protection Networks (ORPNET) in 2010 to link the existing networks and to promote their achievements. ORPNET provides a focal point for communication and exchange of information on occupational radiation protection through networking. It was created following a request in the International Action Plan on Occupational Exposure, created by the IAEA and the International Labour Organization.

ISOE: Information System on Occupational Exposure

ISOE supports the optimization of workers' radiation protection in nuclear power plants through a worldwide information and experience exchange network. The system covers more than 90% of the world's nuclear power plants. ISOE is jointly supported by the OECD Nuclear Energy Agency (NEA) and IAEA. There are four technical centres: Europe, Asia, North America and the IAEA for the daily operation of this system.

Tools

Network

ISEMIR: Information System on Occupational Exposure in Medicine, Industry and Research
The IAEA launched ISEMIR to improve occupational radiation protection in medicine, industry and research. ISEMIR contributes to minimizing the likelihood of accidents by identifying accident precursors and sharing user feedback and experiences. It assists users in benchmarking their arrangements in radiation protection and safety, and hence supports the optimization of occupational radiation protection.

What actions are recommended?

- Member States can join networks and gain better understanding of the optimization of occupational radiation protection through the exchange of information.
- Member States are encouraged to share knowledge, experience, expertise and help build competencies of other network members.
- Member States can develop collaborative partnerships with other experts, as well as access information on IAEA services and training in the field.

Regional networks on occupational radiation protection

EAN: The European ALARA Network
The European Commission established the EAN in 1996 to promote a wider and more uniform implementation of the ALARA principle for the management of public, patient and worker exposures. It is the first regional ALARA network.

ARAN: Asia and Pacific ALARA Network
The IAEA initiated ARAN in Daejeon, Republic of Korea, in December 2007. ARAN facilitates the exchange of information about the practical, cost effective implementation of radiation protection. ARAN is coordinated by a Steering Committee.

IAEA ORPAS mission team members review the individual monitoring services of Slovak Legal Metrology in Bratislava, Slovakia. (Photo: IAEA)

AFAN: The African ALARA Network
AFAN was initiated in 2017 to support the development of a sustainable regional network. In 2023, the network comprised 29 countries in the African region.

REPROLAM: Latin America ALARA Network
The kick-off meeting for the ALARA network in Latin America was held in Rio de Janeiro, Brazil, in 2011. As of 2023, the network comprised 12 countries.

Resources

IAEA radiation protection of workers
iaea.org/topics/workers

ORPNET – Occupational Radiation Protection Networks
iaea.org/services/networks/orpnet

ISOE – Information System on Occupational Exposure
isoe-network.net

ISEMIR – Information System on Occupational Exposure in Medicine, Industry and Research
nucleus.iaea.org/isemir

Email: occupational.protection@iaea.org

23-03029E