

Since its creation in 1992, the Information System on Occupational Exposure (ISOE), jointly sponsored by the OECD Nuclear Energy Agency (NEA) and the International Atomic Energy Agency (IAEA), has been fostering the exchange of data, analysis, lessons learned and experience in occupational radiation protection at nuclear power plants worldwide. ISOE maintains the world's largest occupational exposure database and a network of nuclear utilities and regulatory authority radiation protection experts. Four ISOE Technical Centres manage day-to-day technical operations, located in Paris, Tokyo, Vienna and the US. ISOE is a Joint Project under the NEA's statute, and does not report directly to the Committee on Radiation Protection and Public Health (CRPPH) of the NEA nor request its approval for its programme of work.

Membership in ISOE includes representatives from nuclear electricity utilities and national regulatory authorities who participate under the ISOE Terms and Conditions. The ISOE programme includes the participation of utilities and regulatory authorities in 28 countries. The ISOE database itself contains information on occupational exposure levels and trends at 482 reactor units worldwide (401 operating units and 81 units in cold-shutdown or some stage of decommissioning), covering about 91% of the world's operating commercial power reactors.

As a technical exchange initiative, the ISOE Programme includes a global occupational exposure data collection and analysis programme, culminating in the world's largest occupational exposure database for nuclear power plants, and an information network for sharing dose reduction information and experience. Since its launch, the ISOE participants have used this system of databases and communications networks to exchange occupational exposure data and information for dose trend analyses, technique comparisons, and cost-benefit and other analyses promoting the application of the ALARA principle in local radiological protection programmes and maintains an international system for the exchange of information on occupational exposure through the ISOE expert /working group activities, which are established in response to industry needs by the Management Board.

Recently, the Expert Group on Primary Water Chemistry and Source-Term Management completed its mandate to prepare a report to address the experience of various ISOE utilities with various water chemistry regimes to explore if experience exchange could help to improve radiation protection performances. As water chemistry should not be viewed only from the context of radiation protection issues, the group was proposed to concentrate on a few of the most commonly used water chemistry approaches (e.g. zinc injection, pH control, iron injection, hydrogen water chemistry, etc.) to focus the exchange of experience discussions. The report includes information and practical experience available in the nuclear industry on addressing operational aspects of primary water chemistry and source-term management of nuclear reactors with special emphasis on effects on the management of occupational exposures, identify factors and aspects which play key roles in achieving good practices in water chemistry management and analysis on impact on worker doses and operational costs.

The active Expert Group on Occupational Radiation Protection in Severe Accident Management and Post-Accident Recovery has been established to develop a report on best radiation protection management procedures for proper radiation protection job coverage during severe accident initial response and recovery efforts to identify good radiation protection practices and to organise and communicate radiation protection lessons learned from previous

reactor accidents. An interim report with a general perspective and discussion of specific severe accident management worker dose issues was issued in 2013. In connection with the group mandate, an “International Workshop on Occupational Radiation Protection in Severe Accident Management”, organized by the IAEA, and hosted by the Nuclear Energy Institute (NEI), was organized in Washington DC, USA on 17-18 June 2014. The objectives of the workshop, which was attended by 66 participants from 17 countries, were to identify best occupational radiation protection approaches in strategies, practices, as well as limitations for developing effective management, and to identify national experiences to be incorporated into the final version of IAEA expert group’s interim report. In parallel to workshop objectives, four plenary session and five break-out sessions (by taking into account the chapter structure of interim report) were organized to capture global, utility and regulatory authority perspectives. The workshop provided suggestions for improvement and some additional points to extend the view of interim report. The report will be submitted to the IAEA Management Board approval in November 2014.