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ORAL PRESENTATION - Radioanalytical determinations and radioactivity measurements in the field of Radiation Protection: the experience of the Integrated Laboratory of Radioactivity Measurement and Monitoring of the ENEA Radiation Protection Institute

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Since more than 40 years ENEA has been working in the field of radioactivity measurement especially for environmental and internal dosimetry monitoring purposes. This activity represents a great heritage of competences and experience, now collected in the Integrated Laboratory of Radioactivity Measurement and Monitoring of the ENEA Institute of Radiation Protection (IRP MIR), which acts in three different units located respectively in the ENEA Centers of Saluggia, Casaccia and Trisaia. Thanks to their favorable geographic positions (placed respectively in the North, Center and South of Italy), these units work as a single one Service, able to intervene all over the country.

The large set of measurement systems and equipments available at IRP MIR, together with the knowhow for the application of specific techniques of physical-chemical and radiochemical preparation, allow to carry out analyses on a wide spread of different samples for the determination of a huge amount of radionuclides, particularly those of the greatest radiation protection interest. IRP MIR labs are continuously subjected to internal verification through intercalibration tests and the quality of their performances are supported by regular participation to qualifying exercises and proficiency tests proposed by the most accredited national and international organizations, such as PROCORAD (Association for the Promotion of Quality Control in Radiotoxicological Analysis) to which our Institute has been participating since more than 15 years, and ALMERA (Analytical Laboratories for the Measurement of Environmental Radioactivity), the international network of Laboratories established by the IAEA with the aim to give radioanalytical sustain to the Agency, for measurements on samples coming from contaminated areas, because of accidental or intentional release of radioactivity. On behalf of the Italian Government the Institute of Radiation Protection of ENEA is active member of ALMERA network since 2005.

The aim of this work is to present an overview of the performances provided by IRP MIR Integrated Laboratory in the field of environmental monitoring, radiotoxicology and “special matrices” radioactivity analyses, while giving particular emphasis on the types of analyses where the chemical and radiochemical procedures assume a role of greater significance.

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