

Experience as a Significant Tool for the Design of Gaseous Effluents Stack Monitors

The accurate measurement of the noble gases released by a Radioisotope Production Facilities (RPF) requires the design of an optimized monitoring system. The design process must take into account the characteristics of the radiation detectors and the engineering variables involved in the measurement. In addition, the field start-up experience is a key feature for the evolution and optimization of the new monitoring system. INVAP has a 25 year experience in the design, construction and start-up of stack gaseous effluent monitoring systems. The hands-on knowledge acquired during these years has allowed to reach a modular, versatile and multipurpose product, that can be installed either in RPF, Nuclear Research Reactors or any other nuclear facility. The stack gaseous effluent monitor has been optimized for the real-time measurement the radioxenon releases to the atmosphere. Characterization of emissions from RPFs is of great interest for CTBT, given its need to know the atmospheric background because the fact that RPFs are the responsible of most of the produced background. This poster presents the evolution of the INVAP stack monitor. The main features taken into account in the optimization of the design are described following the historical evolution of the monitoring system.

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