NEW GUIDELINES FOR RISK ASSESSMENT IN SEVESO III INDUSTRIES: CRITICALITIES TO BE FACED AND SOLUTIONS PROPOSAL

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Following the accident that occurred at the ICMESA in Seveso in 1976, a process of continuous regulation of the aspects linked to the prevention of major accident risks began. Currently the reference legislation consists of Legislative Decree no. 105/2015, whose main innovations compared to previous regulations include a strengthening of the guidance and coordination role carried out by the Ministry of the Environment (art. 11) and a strengthening of the control system, through the planning and scheduling of inspections in factories (art. 27). One of the fundamental concepts of the legislation on major accident risks is that the potential risk is directly linked to the type and quantity of dangerous substances present within the plant. Having said this, the structured evaluation of both the etiology of the accidental events that can potentially arise during the storage or handling of substances defined as "dangerous" (in jargon, Top Event) and the probability of occurrence associated with them remains essential.

Currently, the legislation does not provide for the use of techniques for estimating the unavailability of Top Events but allows for the carrying out of qualitative assessments aimed at defining for which accident scenarios it is necessary to conduct a detailed magnitude simulation.

Starting from the year 2023, ARPA Lombardia, in collaboration with the University of Insubria, has activated a research project dedicated to the study, development and application of integrated hybrid techniques for identifying risk factors and accident scenarios as well as estimates of the probability associated with them that are able to be easily used for risk assessment in companies subjected to relevant risk.

In order to study the applicability of the developed techniques and their implementation in appropriate Guidelines, a series of applications of these hybrid techniques, carried out on previous accidents that occurred in the process industries, are being verified.

In this presentation some of them will be presented with particular reference to accidental events linked to the development of fires and explosions.