

ABSTRACT

The aim of the Seveso Directive on the control of major-accident hazards including dangerous substances is the protection of human and the environment. The thesis includes a discussion about current approaches of hazard identification, risk assessment and determining the acceptability of the risk. Traditional risk assessment is usually not based on the detection of failures and nonconformities that are currently present and does not pay attention to the daily research of deviations, as essential for accident prevention. Operators perceive and treat safety as satisfying the requirements of the legislature and consequently requirements Seveso Directive represent an additional bureaucratic obstacle. The issue of bias when determining the probability of scenarios that affect the risk acceptance criteria achievement is also highlighted. Findings regarding the limitations and shortcomings of current approaches represent a starting point for a new methodology of the safe operation of the establishment with the emphasis on effective risk management. The scenarios for land use planning and for the presentation of effective daily operation should be treated separately; scenarios with negative effects are important for determination of acceptable safety distance among establishments and other areas as well as for the emergency plans, but to show effective daily operation, scenarios with the identified potential events that may occur, are not enough.

The new methodology of effective daily operation is also based on the scenario approach, but not for the purpose of predicting events that may occur, but on the scenarios with *what is not, but should be /is wrong* approach for the identification of latent weaknesses; we follow the principle that what we do not know is more important than what we know. Simple definition of efficiency is not given, but the responsibilities are shown, so that it is undoubtedly how the efficiency is achieved, demonstrated and evaluated. The efficiency assessment influences the prohibition of use of an establishment, so it is possible that potentially dangerous establishments are identified in time. Within the thesis are also given suggestions for establishing the criteria for acceptable risk in land use planning.