



Modelling of accidental released hazardous gases for the elaboration of emergency plans

Sirma Stenzel and Kathrin Baumann-Stanzer

Central Institute for Meteorology and Geodynamics (ZAMG), Environmental Meteorology, Austria
(sirma.stenzel@zamg.ac.at)

Meeting regulatory requirements, such as the Seveso II Directive (96/82/EC), has increased the application of dispersion models to assessing the possible consequences of industrial accidents and applying the optimal countermeasures. There are diverse dispersion models in Austria used by the authorities and the fire brigades for accident impact considerations (in the framework of the elaboration of internal and external emergency plans, for considering of "Domino-effects" as well as predefinition of appropriate safety zones for urban and regional planning). There is no uniform approach regarding the application of the models for risk management, emergency planning, definition of the potential accident scenarios and the meteorological conditions. For improving the communication between the authorities and emergency responders and better support to the decision-makers, standardization of the application of the dispersion models for this issue is highly desirable.

The project NOTPLAN (Dispersion modeling for emergency planning) is conducted by the Central Institute for Meteorology and Geodynamics (ZAMG, <http://www.zamg.ac.at>) in cooperation with SEVESO establishments and regional authorities. In the frame of the project questionnaires have been sent to most of the SEVESO establishments in Austria as well to the regional authorities in order to get more information concerning the models used, simulated scenarios and the specific demands on support (especially with meteorological data). Based on the questionnaires several dispersion scenarios (with different chemical and meteorological input data) are defined and proceeded with the two models: TRACE (Safer System, www.safersystem.com) and ALOHA (EPA, www.epa.gov). The results are compared and discussed. One purpose of the project is the specification of the input requirements for dispersion modeling for emergency planning (internal and external).

This presentation focuses on basic issues and problems in modelling of accidental released toxic gases for elaboration of emergency plans and risk management, as well as on communication difficulties among the emergency responders, modellers and authorities.