



Conference Abstracts



MINISTRY OF DEFENCE

dstl



On behalf of:
UK Ministry of Defence
U.S. Department of Defense

13th International Chemical
Weapons Demilitarisation
Conference
CWD 2010

24-27 May 2010
Prague, Czech Republic

Computer System of Prediction of Accidental After-Effects and Risks at the Chemical Weapon Facilities

Vladimir M. Kolodkin and Vladimir A. Leonov

Institute of Nature and Technogenic Disasters, Green Cross Russia

Ensuring the safety for the population and environment is the requirement of the chemical weapon destruction. One of the aspects of the activities directed to safety ensuring is informing the population on the after-effects of the accidents possible at the chemical weapon facilities and also training to prepare for response in the conditions of emergencies. A special computer system was created for the purposes of prediction of accidental after-effects and preparation of the population for response. This work has been done thanks to the support of the Russian and international organization and funds (Green Cross Russia, the International Science and Technology Center).

The functional possibilities of the Computer System are the following:

- Prediction and representing accidental after-effects. Prediction of accidental after-effects is based on the methods of mathematical simulation. The processes of initiation of the accident-associated sources of chemical hazard and development of the accident scenario are simulated. The dynamics of the development of the zones of affliction of human beings at the accidents are shown on the local map.
- Computation of the quantitative indexes of risks at the accidents at the chemical weapon facilities. Representing the risk isolines on the local maps.

At present some Green Cross information centers run the versions of the special Computer System with different functional possibilities.

Professor Vladimir Mikhaylovich Kolodkin – Doctor of Technical Sciences, Professor, Director of the Research Institute of Disasters of Udmurtia State University, Izhevsk, Russia.

University degree - graduated from the Physical Faculty and completed a postgraduate course in Physics. During the last 15-20 years his scientific interest has been focused on prediction of accidental after-effects at the chemical weapon facilities. Prediction is based on the methods of mathematical modeling and information technologies. One of the main lines of activities of the Institute led by Professor Kolodkin is development of software-hardware systems for prediction of after-effects of possible chemical accidents.

Professor Kolodkin is the author of more than two hundred scientific publications, books, articles, and brochures.