2ND SCIENTIFIC INTERNATIONAL CONFERENCE ON CBRNe SICC SERIES

2020

10-12 DECEMBER 2020

BOOK OF ABSTRACT

www.sicc-series.com

www.tabedizioni.it

	The SHAMISEN project (Nuclear Emergency Situations - Improvement of Dosimetric, Medical And Health Surveillance) concluded with 28 recommendations to better prepare and respond to radiation emergencies, based on lessons learnt from past nuclear accidents. For the first time, the SHAMISEN recommendations focused on optimal decision-making processes that not only consider technical issues (direct effects of radiation), but also socio-economic, psychological and ethical dimensions. Learning from past experiences involves more than gathering evidence: it relies on a critical evaluation of lessons learned, bringing together scientists from many disciplines (including social sciences) in order to integrate technical implementation issues, scope of the accident-related contamination, needs of affected populations, and societal and ethical challenges. Recommendations cover five main topics: health surveillance and epidemiological studies of populations affected by a radiation accident, evacuation, dose measurements, and training and communication with stakeholders and the general public. They are divided into general principles and sets of specific recommendations for before (preparedness) and after (early, intermediate and recovery phases) an accident. Ethical aspects are considered throughout, including the core principle of "doing more good than harm". The majority of the SHAMISEN recommendations can be easily translated to other types of disasters, including the current COVID19 pandemic. Most recommendations address common issues, such as those related to psychological stress and uncertainty; the need for adequate and transparent information; the importance of engaging local stakeholders and populations in data collection (environmental and/or health monitoring); and establishing mediators between professionals and general public to facilitate dialogue. Those specific to a radiation accident (dose measurements, radiation protection culture, etc.) can be adapted to the circumstances of interest. Funding: SHAMISEN was funded by OPERRA (Open Project for the European Radiation Research Area: FP7, grant agreement 604984).
T.4-D.1-O.10	**STUDIES ON THE PROCESSES OF EMERGENCY RESPONSE AT THE FACILITIES OF THE ATOMIC-ENERGY COMPLEX**
05.45 p.m - 06.10 p.m.	Maksym Kustov[1], Volodymyr Kalugin[1] *1. National University of Civil Defence of Ukraine*
	Studies on the processes of emergency response at the facilities of the atomic-energy complex with the release of gaseous and dispersed radioactive substances and hazardous materials into the atmosphere allowed us to develop a procedure for the practical implementation of this method. The emergency response method is aimed at precipitating hazardous radioactive substances from the atmosphere that enter the atmosphere during man-made accidents at nuclear power plants and other facilities for the storage and processing of radioactive substances. The presented procedure allows to solve three main tasks of liquidation of consequences of emergency situations - it is monitoring of the affected area, making effective management decisions and direct influence on the affected area from the emergency. The basis for making effective management decisions is to predict the dynamics of radiation contaminated zones, predict the intensity of precipitation with various methods of artificial precipitation and predict the effectiveness of precipitation effects on the dynamics of changes in contaminated areas. In order to expand the capabilities of existing methods for predicting pollution zones, their modification has been proposed taking into account the features of precipitation. Due to the use of artificial sedimentation methods, as provided for in the procedure, there is the possibility of precipitating dangerous radioactive substances from the atmosphere from a height of several kilometers, which cannot be implemented by other known methods. The developed method by artificially initiating precipitation are the basis for the development of a procedure for practical emergency rescue units during emergency response at regional and state levels. Thus, there is reason to believe that the use of the proposed procedure will improve the