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IFIN-HH

Toward an integrated, joint cross-border detection system and harmonized rapid responses procedures to chemical, biological, radiological and nuclear emergencies
MIS-ETC Code: 774

Newsletter EMERSYS 8

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Training Sessions for CBRN operational staff (T4, T6) - *Bucharest, Romania, January 26-31, 2015*

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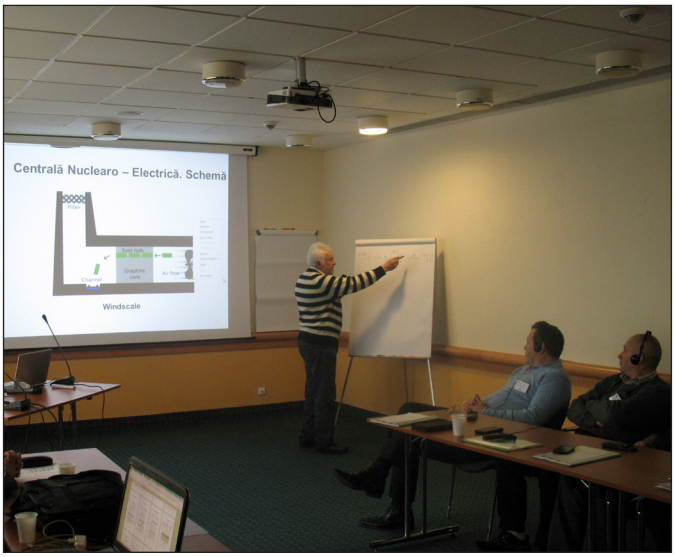
During 26-31 January 2015, in Romania, Bucharest, Hotel Ibis (Gara de Nord), were organized two training session dedicated to CBRN operational staff from General Inspectorate for Emergency Situations-RO Partner 2, and Directorate General for Fire Safety and Civil Protection-BG, Partner 3. The Project Leader IFIN-HH organized two training courses for theoretical and practical aspects on Radiological/Nuclear risk assessment and forecasting, respectively on operation/handling (including data interpretation and transmission) of radiological and nuclear detection equipment in emergency situations.



The "Theoretical and practical training on risk assessment and forecasting" (Session Training 4) was held under EMERSYS Project, having as objective to "Enhance the exercise preparation and emergency expertise from local and the cross-border area by training CBRN operational staff". Its target is the staff of the emergency management responsible authorities having attributions in the field of nuclear and radiological emergencies. The training course was structured in such way to provide the participants basic knowledge in the field of risk assessment and forecasting, emphasizing on radiological and nuclear risks.

The main goal was to have a better understanding of the risk concept, probabilistic safety assessment, CANDU reactor, decision support systems and their use in the evaluation of radiological consequences and countermeasures to mitigate the impact on population and environment.

The risk concept was discussed with an accent on identification, assessment, prioritization and management. Further particularization of the concept of Nuclear risk was presented with examples related to nuclear energy, types of nuclear risks, International Nuclear and Radiological Event Scale (INES), Nuclear Accident Magnitude Scale (NAMS); having the objective of classification of nuclear events and the unpredictable events, facing the threat from unauthorized nuclear activities or otherwise.

Nuclear risk assessment had the objective to provide the main concept for probabilistic safety assessment

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(PSA), which offers a systematic approach to determine as final target the source term of a radioactive release in the environment.

Furthermore the basic information about CANDU 6 reactor was presented, followed by a PSA application on this reactor type and the analysis of possible severe accidents.

The training session was finalized with theoretical and practical exercises with software tools used in Radiological/Nuclear emergencies assessment.

The purpose was to know how data and information are exchanged in the event of a radiological or nuclear emergency in Europe, presentation of the formats for emergency notifications and, also, the role and place of the computer applications. The assessment of the radiological consequences of a radioactive release from a nuclear facility or otherwise by using "Decision Support Systems" (DSS) was presented. Practical exercises with software tools (e. g. HotSpot Expert System, N-WATCHDOG Expert System, RODOS Expert System) for radiological and nuclear emergency assessments were performed; practical examples being focused on the understanding of the results of such tools in taking the emergency countermeasures.

Practical examples with the DIEX platform for registering/visualizing real time data while recorded and transmitted from the actual scene of a Radiological/ Nuclear emergency.

The "Theoretical and practical training on use of radiological and nuclear detection equipment" (Session Training 6) had the purpose to present the radiological and nuclear equipment used in detection of ionizing radiation, utilization and collecting/writing data measured, analyze and submit the information obtained.

The session was focused on the principal characteristics of instruments used for the detection and the measurement of the ionizing radiation, underlining measurement of the doze and related quantities; the activity and related quantities; radionuclides identification; finding/screening the radioactive sources; alarm thresholds; intrinsic error; energy range of the detected radiation; environmental and electric power conditions for operating and storage of the instruments; legal requirements for the measuring instruments; the components and operation of an instrument; general requirements regarding the on-site measurement; utilization the printed forms and fill with measured data.

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