

Role of International Recommendations in Development and Maintenance of Stable Nuclear Forensics Capabilities

Description

This paper describes the main results of work on the elaboration of certain rules for the development of international guidance documents in the field of nuclear forensics and radiological crime scene management. The recommendations for the fields of application, the consultancy team formation as well as the content of these documents are defined.

International nuclear forensics documents can play a significant role in helping countries to develop and maintain its stable national nuclear forensics and radiological crime scene management capabilities. They gather experience gained by different countries in solving problems related to setting analytical tasks and analyzing nuclear or other radioactive samples or samples contaminated with trace amounts of radionuclides.

International recommendations for the development and maintenance of stable nuclear forensic and radiological crime scene management capabilities may have two main directions:

- Proposals for the organization and improvement of the national system for identification of Nuclear or other Radioactive Material found Outside the Regulatory Control (MORC);
- Recommendations for collection and analyzes of samples in the context of a criminal investigation where nuclear forensic analysis are required.

Proposals for the improvement of the national system should be developed by a team of specialists in different fields and from different countries. The team of authors should include representatives of law enforcement agencies and judicial authorities: experts in the field of legislation, practitioners conducting criminal investigations. Moreover, both kinds of analysts should also be represented: experts in the field of nuclear forensic examinations as well as experts in traditional forensic techniques. If the document under development includes practical recommendations on interactions with judicial authorities or court of law, then experts from countries with different judicial systems and with different rules and traditions of investigative agencies should be present during the consultancy meetings. If the recommendations contain proposals for structural changes in existing national services and organizations, they should be discussed with representatives of such services and organizations from different countries. Such proposals should have clear purposes and contain only carefully verified definitions, basic concepts and approaches. These definitions, concepts and approaches must comply with the definitions, basic concepts and approaches developed and adopted in other areas of forensic science, and should not contradict the culture of the forensic community.

It is highly appreciated that state decision makers take part in the development of these recommendations. Their experience makes it possible to evaluate the applicability of the proposed recommendations, estimate their viability and, if necessary, adjust the recommendations.

Concretization of general concepts, such as international cooperation, interdepartmental interaction and others, is necessary. Such concretization allows the persons, studying these recommendations, to understand what aspects of these concepts are being discussed and to recognize the resources which are necessary for performing these components of the recommendations.

One of the successful examples of the document being developed in the fields of nuclear forensics in the international format is a document helping countries perform self-assessment of their own capabilities in this field (GICNT Self-Assessment Tool).

Recommendations for performing forensic examination of physical evidence can be useful only if they are developed by analysts who have experience in performing such examinations. Herewith, it is not necessary in these recommendations to provide detailed information about all the possibilities of the methods and on the general rules for processing the measurement results. Such information can be gleaned from textbooks and other special literature. Nevertheless, an overview of commonly applied analytical techniques which proved their efficiency within laboratory inter-comparison exercises dedicated to nuclear forensics and radiological crime scene (e.g. Collaborative Material Exercise series or Round Robin Exercises) are needed. Such overview can be helpful for Member States which start developing their analytical capabilities using the risk informed approach.

In such recommendations it is important to focus on the informativeness and features of the analysis, which

are due to the physical specificity of the samples, which can be held as evidence in the investigation, as well as due to juridical status of these samples. Examples of such recommendations are documents developed by nuclear forensics international technical working group (ITWG).

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