

**Field: RADIATION PROTECTION AND WASTE MANAGEMENT**

**Topic: REGULATION OF TRANSPORT OF RADIOACTIVE MATERIAL AND FISSILE MATERIAL**

**Course type:** TRAINING

**Date:** 23-27 October 2023

**Duration:** One week

**Location:** Istanbul, Turkey

**Working language  
of the course:** English

**Objective and learning outcomes**

This course offers fundamental technical knowledge and introduces international requirements, regulatory approaches and practices through which trainees can improve their competences and skills needed in review and assessment, authorization and inspection of radiation protection processes and procedures used in relation to the transport of radioactive and fissile materials (including nuclear fuel, ores and intermediate products).

**Outline of course content**

- Introduction of the international requirements and standards of safety which provide an acceptable level of control of the radiation, criticality and thermal hazards to people, property and the environment that are associated with the transport of radioactive and fissile materials. Detailed emphasis on means of protection, such as containment of the radioactive and fissile content, control of external dose rate, avoidance of incorporation of radioactive material, prevention of criticality and heat damage.
- Introduction of the developments of the specific EU and global regulations for transporting radioactive and nuclear materials such as ADR, RID, ADN, IMDG Code, Chicago convention and their relations with the IAEA SSR-6 (Rev.1) Transport Safety Requirements.
- Explanations on how the regulations apply to all modes of transport of radioactive material by land, water or air. Transport comprises of all operations and conditions associated with and involved in the movement of radioactive material, these include the design, manufacture, maintenance and repair of packaging and the preparation, consigning, loading, carriage including in-transit storage, shipment after storage, unloading and receipt at the final destination of loads of radioactive material and packages. A graded approach should be applied in specifying the performance standards, which are characterized in terms of three general severity levels: routine, normal and accident conditions of transport.
- Introduction of general provisions related to the radioactive material transport, such as radiation protection, emergency response, management system, compliance assurance, non-compliance, special arrangement and training. Discussion of activity limits and classification, determination of basic radionuclide values, classification of material, classification of packages.
- Practical exercises: dose rate measurements on the surface of a van, on the surface of packages; emergency response scenario: radioactive content released from the container used for shipment.

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### **Technical schedule and delivery methods**

The course consists of one module taking a working week (i.e. 5 workdays).

- **Classroom lectures** take 4 days with 4 units per a day (tentatively morning sessions with 2 lectures of 90 minutes each, afternoon sessions with 2 lectures of 90 minutes each, with time allocated for discussions and appropriate breaks).
- **Practical session:** virtual source scenarios to familiarize trainees with the potential radiation related to the transport of radioactive and fissile materials (2 × 90 minutes).

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### **Target audience**

This course is intended to experts and professionals of Nuclear Regulatory Authorities (NRAs) and Technical Support Organisations (TSOs), preferably with responsibilities and experience related to the radioactive material transport.

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**Target number of participants:** 15 – 25

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### **Prerequisites and requirements for participants**

Participants should have basic radiation protection knowledge and an adequate level of knowledge in English (at least an 'Independent user' level defined by the [CEFR](#)). A university degree with nuclear specialization OR at least 1-2 years of professional experience in functions relevant to the content of the course is also a prerequisite.

Relevancy of the course topic in the work and institutionally justified interest in participating will be considered as well as the need and opportunity for filling competence gaps. Regional connections to the course location are prioritized and efforts are made to ensure gender equality, so these aspects may also be taken into account as selection criteria.

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### **Terms of participation**

The project is implemented under the European Union (EU) external assistance programme called the European Instrument for International Nuclear Safety Cooperation (INSC) and aims to support the National Nuclear Regulatory Authorities (NRAs) and their Technical Support Organisations (TSOs) in non-EU countries in strengthening their capabilities with regard to their regulatory tasks and responsibilities in the field of nuclear safety and radiation protection.

Employees of the NRAs or their TSOs in the Beneficiary Countries are eligible for financially supported participation in the T&T courses. Beneficiary Countries of the project are published on the project website <https://training.ek-cer.hu/>.

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### **Costs**

Travel costs and subsistence allowances (including the international and national travel tickets, per diems, shuttle services, insurance and visa costs) for participants will be covered by the project.

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### **Application**

Application via the project website <https://training.ek-cer.hu/>, according to the process and deadlines indicated there.

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### **Examination**

Technical and linguistic tests will be written as part of the application and selection process to assess the underlying knowledge and preparedness of applicants. Knowledge and development of selected participants will be assessed through technical tests throughout the course.

Participants attending the full course will be issued with attendance certificates. Successful participants will receive certificates confirming their knowledge achieved and skills acquired.

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