info@training.ek-cer.hu
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Funded by the European Union
INSC T&T Project MC3.01/20

Version 1

Field: RADIATION PROTECTION AND WASTE MANAGEMENT

Topic: EU ACQUIS, REGULATION AND REGULATORY OVERSIGHT OF RADIATION PROTECTION

Course type	TUTORING
Host institute	Hungarian Atomic Energy Authority Budapest, Hungary
Date	7 November – 2 December 2022
Duration	Four weeks
Working language	English

Objective and learning outcomes

This course provides tutees with skills to understand the system of European Union Acquis and its implementation into national regulation, in particular in the areas of nuclear safety and radiation protection, and to get acquainted with the relevant legislation.

Outline of course content

- Interpretation of the European Union (EU) acquis in general and the EU and international (e.g. IAEA) regulation on radiation protection and nuclear safety of nuclear facilities and radioactive waste management facilities, with particular emphasis on the implementation of EU BSS into the national regulations. Introduction of radiation protection related international regulations for the safe transport of radioactive materials, including radioactive waste.
- Introduction to the Hungarian nuclear regulation and regulatory oversight:
  - Introduction of the national regulatory framework, nuclear safety requirements of nuclear facilities and radioactive waste management facilities, and the related regulatory activities.
  - Introduction of the radiation protection regulatory oversight system in Hungary with the provision of detailed, practical information and hands-on experience.
  - Overview of nuclear safety and related radiation protection on facility level.
  - Overview of the national strategy for radioactive waste management associated with the fundamental documents and framework of the national system (i.e. legal system, interactions with stakeholders and actors, national policy and national program of the spent fuel and radioactive waste management)
- On-the-job trainings on the
  - regulatory licensing processes for ensuring the radiation protection of the public and workers in different institutional (medical, science, industrial) applications of ionising radiation;
  - regulatory licensing of nuclear and radioactive waste management facilities at different life-cycle phases with regard to radiation protection issues, and the goals of nuclear safety and radiation protection in different life-cycle phases of the facilities, studying parallel operational and construction activities;
  - guidance and national experiences on facility-level radiation protection, focusing on the Workplace Radiation Protection Rules (WRPR);
  - regulatory inspection, starting from the annual planning of inspection activities using risk-informed inspection planning method, up to the assessment of the outcomes of the inspection (e.g. analysing the non-compliances, initializing of enforcement activities), providing different hands-on experiences in inspecting different institutional applications of ionising radiation, e.g. training on using of a variety of measuring devices, on site visit at licensees;
  - regulatory oversight, inspections of the nuclear and radioactive waste management facilities with regard to the radiation protection issues, with a site visit to a repository and on-site inspection at a radioactive waste management facility.
- Case studies on assessment of Safety Analysis Reports for transport of radioactive materials, including radioactive wastes, based on the related radiation protection regulations.
- Introduction to the enforcement processes in case of institutional applications used by the regulatory body, giving examples on the application of the graded approach during the regulatory enforcement actions.
- Enforcement processes in case of the nuclear and radioactive waste management facilities concerning graded approach and various radiation protection issues, introducing a case study connected to the spent fuel storage facility.
- Radiation protection related issues of emergency preparedness and response will be covered briefly.

Technical schedule and delivery methods

The course consists of one module taking 4 working weeks (i.e. 4 × 5 workdays).

1–2 working weeks deal with radiation protection issues of institutional applications. They are structured as follows:

- **Classroom lectures** take 2 days with 2 units per a day (tentatively morning sessions with 2 lectures of 90 minutes each, with time allocated for discussions and appropriate breaks).
- **On the job training** to share hands-on experiences on licensing (2 days), inspection (4 days), and enforcement (1 day), including on-site visits.
- 1 or 2 half-day **technical visit(s)** to industrial and/or medical facility using various applications of radioactive materials and providing diagnostic and therapeutic services to patients with radioactive materials.

3–4 working weeks are related to radiation protection issues within nuclear and radioactive waste management facilities as well as in case of transport. They are structured as follows:

- **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 interactive lectures of 90 minutes each, with time allocated for discussions and appropriate breaks).
- **On the job training** to share hands-on experiences on WRPR, radiation protection at facility level, licensing, and inspection, with the inclusion of site visits.
- 2 one-day **technical visits** to radioactive waste management facilities, with the inclusion of a site visit and a planned inspection.

Target audience

This course is intended to experts and professionals of Nuclear Regulatory Authorities (NRAs) and Technical Support Organisations (TSOs) with responsibilities in the field of radiation protection.

Target number of participants: 2

Prerequisites and requirements for participants

Participants should have a basic knowledge of radiation protection and an adequate level of knowledge in English.

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 website https://training.ek-cer.hu/.

Costs

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

Application

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

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.

Work reports will be prepared to allow for progress monitoring and determining the final development through acquisition of knowledge, practical experience and expertise, as well as task completions.

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