

Field: NUCLEAR SAFETY

Topic: FUNDAMENTALS OF SAFETY ASSESSMENT

Course type	TUTORING	Objective and learning outcomes The course provides tutees with background knowledge on the safety assessment and the nuclear technology aspects important to safety, regulatory issues and processes as well as safety standards and requirements necessary to carry out either the safety assessment or the safety assessment reviews.
Host institute	Centre for Energy Research Budapest, Hungary	
Date	25 March – 19 April 2024	
Duration	Four weeks	
Working language	English	

Outline of course content

- Interpretation of the European Union (EU) acquis in general and the EU and international (e.g. IAEA) regulation on safety assessment and nuclear safety of nuclear facilities and radioactive waste management facilities, with particular emphasis on the implementation into the national regulations. Introduction of safety analysis related international regulations.
- 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.
 - Introduction of the safety assessment regulatory oversight system in Hungary with the provision of detailed, practical information and hands-on experience.
 - Overview of nuclear safety and safety assessment on facility level.
- On-the-job trainings on the
 - licensing processes for different aspects of the safety assessment;
 - overview of the methodologies and tools used in preparation of the safety assessment;
 - licensing of safety analyses for nuclear facilities at different life-cycle phases and the goals of nuclear safety;
 - guidance and national experiences safety assessment, focusing on the nuclear power plant applications;
 - guidance and national experiences for preparation and licensing the safety analyses in the safety assessment;
- Case studies on the assessment of Safety Analysis Reports.

Technical schedule and delivery methods

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

1st–2nd working weeks deal with safety assessment issues of institutional applications, the training on which is 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 the content (4 days), structure (2 days), and on the role of the safety analysis in the safety assessment. (1 day).

3rd–4th working weeks are related to safety analysis issues for nuclear facilities, the training on which is structured as follows:

- **Classroom lectures** take 2 days with 4 units per a day (tentatively morning and afternoon 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 the tools and strategy for preparation and licensing of safety analyses, with the inclusion interactive lectures. Practical examples of application of the classroom lectures with highlighting the important aspects of the safety analyses.
- Two days **technical visits** to industrial and/or research facilities related to safety assessment related experimental facilities.

Target audience

This course is intended for experts and professionals of Nuclear Regulatory Authorities (NRAs) and Technical Support Organisations (TSOs) with responsibilities in the field of nuclear safety and safety assessment.

Target number of participants: 2

Prerequisites and requirements for participants

Participants should have basic nuclear safety 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 and at least 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. Efforts are made to ensure gender equality.

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

Work reports will be prepared by the participants to allow for progress monitoring and determining their 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.
