

Field: EMERGENCY PREPAREDNESS AND RESPONSE

Topic: EMERGENCY PREPAREDNESS AND RESPONSE OF THE GOVERNMENTAL INSTITUTIONS INCLUDING THE REGULATOR

Course type: TRAINING

Date: 11-15 December 2023

Duration: One week

Location: Rio de Janeiro, Brazil

**Working language
of the course:** English

Objective and learning outcomes

This course offers fundamental technical knowledge and introduces the stakeholders, the regulatory approaches and the practices of the emergency preparedness and response (EPR) in case of major nuclear emergencies. The trainees can improve their competences and skills needed in review and assessment, authorization and inspection of EPR processes, procedures and documentation.

Outline of course content

- Introduction of the internationally accepted emergency classification system: 5 emergency preparedness categories (EPC). Definitions of emergency classes: alerts, facility emergencies, site area emergencies, general emergencies. Structure of emergency planning, preparedness, and response system in countries with and without nuclear power reactors.
- Introduction to international regulations and conventions on Emergency Preparedness and Response, with emphasis on requirements impacting national structures, responsibilities, assistance and notification. Introduction to reference IAEA documents and guidance.
- Potential dose consequences of major nuclear emergencies with significant radioactive release into the environment. Legislative issues: reference levels for emergency responders and the public, conditions for designation of emergency workers and responders. Fundamentals of dose control of the public under accident conditions: system of reference levels, generic criteria, and operational intervention levels (OILs). Applicability of projected doses and received doses.
- Roles of relevant stakeholders in the planning related to emergency preparedness and in the practical implementation during emergencies. Description and applicability of procedures for event identification and classification by means of pre-defined observables and emergency action levels (EALs) under all possible conditions; deduction and verification of EALs.
- Off-site emergency management schemes and procedures. Relation and cooperation with international organizations involved with nuclear emergencies: European Community Urgent Radiological Information Exchange (ECURIE), ENSEMBLE platform of the European Union, European Union Civil Protection Mechanism, and the IAEA Incident and Emergency Centre (IEC). Regional networks for reporting and communications with pertinent national and international organizations; communication with other stakeholders (local authorities, medical services, police, media, etc.).
- Tabletop exercise for evaluating the national emergency preparedness report and its status for an accident at a nuclear installation. The players form one or more groups of national EP&R scientific referees to the decision-makers, the controllers play the role of the decision-makers asking for expert and science-based advice. The facilitators hand over a brief (1-2 pages) description of a hypothetical national emergency plan and of a hypothetical accident. The task of the players is to identify the weaknesses of the national plan: which key issues (if any) of the EPR plan are not covered, which tasks (if any) are erroneously carried out, etc. The findings will be discussed together.

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).
- **Tabletop exercise** will be included for which participants will form groups (4-5 persons each), and a 30-minute group discussion will be followed by a 45-minute exercise in two consecutive units.

Target audience

This course is intended for experts and professionals of Nuclear Regulatory Authorities (NRAs) and Technical Support Organizations (TSOs), preferably with responsibilities and experience related to emergency preparedness.

Target number of participants: 15 – 25

Prerequisites and requirements for participants

Participants should have 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 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.

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 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.

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.

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