



Regional Training Course on Gamma Radiation Processing Dosimetry

Hosted by

The Government of Hungary

through the

Hungarian Academy of Sciences; Centre for Energy Research

Budapest, Hungary

15 to 19 May 2023

Ref. No.: TN-RER1021-2206828

Information Sheet

Purpose

The purpose of the event is to train the participants on Gamma Radiation Processing Dosimetry including on the requirements of ISO 11137 Standards such as dosimetry procedures necessary during Installation Qualification (IQ), Operational Qualification (OQ), Performance Qualification (PQ) and routine Process Control.

Working Language(s)

The working language(s) of the event will be English.

Deadline for Nominations

Nominations received after 17 March 2023 will not be considered.

Project Background

Radiation processing exists in many IAEA TC Regions, among others in many European and Central Asian countries mainly for the sterilization of medical products, for the production of advanced polymer materials and for agriculture and food industry. The planned further expansion of the European Union will result in increased trade, requiring strictly controlled radiation technologies through standardized quality control methods and procedures. EU and national authorities introduced new standards and regulations related to health, food, industry and further development in radiation processing. The regional project activities have been carried out to support improvement and establishment of radiation processing technologies in industrial gamma and electron beam facilities, and this project activity will focus on supporting safe and efficient operation of industrial, agricultural and environmental applications in radiation processing.

Expected Outputs

- Knowledge of irradiation facility staff in application to their radiation technologies for medical, industrial, agricultural and environmental application increased, aiming at the selection and calibration of suitable dosimetry systems and their use for radiation process control.
- Use of harmonized dosimetry procedures applied during IQ, OQ, PQ and routine process control of various radiation processing applications.
- Performance of qualified personnel increased in gamma radiation processing dosimetry, and the required standardized QA/QC procedures.
- Further experience in performing bi- and multilateral dosimetry intercomparison exercises applied.
- Selection and use of dose control methods for water and waste-water treatment technologies applied.

Scope and Nature

The training course will consist of theoretical and practical parts as well as of the reports of the participants describing their own practices used in their irradiation facilities. Participants are kindly requested to prepare a short (10-15 minutes) summary - to be given during the participant introductory session at the beginning of the training course - describing their conventional dosimetry practices including calibration and routine process control. The training course will consist of presentations on the basic theoretical and practical applications of radiation processing dosimetry as described in the ISO 11137 Standard. Special attention will be given to the importance of dosimeter calibration procedures and the overview on most frequently used reference and routine dosimeter systems. Practical exercises will be carried out concerning selected topics on Installation, Operational and Performance Qualification, as well as routine dosimetry process control using routine dosimeters. The differences between required dosimetry procedures in IQ, OQ, PQ and routine process control in gamma and electron radiation processing will also be discussed. Presentation on the selection and utilization of radiation processing dosimetry methods for environmental applications will be given and discussed utilizing the experiences of the participants. The main characteristics of the most frequently used reference and routine dosimetry systems will also be discussed together with the relevant environmental effects affecting the performance of these dosimeters. The calibration methods of these dosimetry systems, as one of the most significant procedures of reliable and accurate QA/QC will be shown and analysed. During the training course a visit to the experimental EB facility in operation at Centre for Energy Research will be organized to share the experiences gained so far.

Participation

The meeting is open up to maximum 16 participants from Member States participating in the regional TC project RER1021. Maximum 4 groups each one consisting of 4 participants are planned for the practical exercises due to achieve required efficiency.

Participants' Qualifications and Experience

The participants should be technical specialists, physicists, chemists, technicians of a) operating industrial/laboratory scale gamma irradiation facilities, b) institutions/industrial and/or environmental firms already in the phase of establishing new gamma irradiation facilities for sterilization or environmental protection purposes c) irradiation facilities working on environmental application by the use of ionising radiation.

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (<https://intouchplus.iaea.org>) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (<https://websso.iaea.org/IM/UserRegistrationPage.aspx>) before proceeding with the event application process below.
2. On the InTouch + platform, the candidate must:
 - a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
 - b. Download and complete the [Designation of Beneficiary and Emergency Contact Form](#), and upload to InTouch+ ('Profile' tab under the personal section) specifying the document name. If already provided, kindly discard this step; and
 - c. Search for the relevant technical cooperation event (EVT2206828) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

NOTE: Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline.

For additional support on how to apply for an event, please refer to the [InTouch+ Help page](#). Any issues or queries related to InTouch+ can be addressed to InTouchPlus.Contact-Point@iaea.org.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected, and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency AX Travel Management, or a travel allowance, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

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