



Regional Workshop on Applied Radioactive Waste Management Techniques and Technologies

Hosted by

The Government of the Russian Federation

through the

Federal State Unitary Enterprise "RADON"

Sergiyev Posad, Russian Federation

25 to 29 October 2021

Ref. No.: ME-RER9154-1907937

Information Sheet

Purpose

The purpose of the event is to train participants on key requirements specified for waste packages in the waste acceptance criteria and using these requirements to select processing technologies applicable to different waste streams (legacy and hazardous waste processing is excluded from this event).

Working Language(s)

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

Deadline for Nominations

Nominations received after **3 September 2021** will not be considered.

Project Background

The International Atomic Energy Agency (IAEA) promotes the safe and peaceful uses of nuclear energy including the management of radioactive waste according to nationally and internationally agreed principles and standards with safe disposal as endpoint for all waste types.

Radioactive waste arises from the operation of nuclear reactors, nuclear fuel cycle facilities, research facilities, medical facilities and industrial applications. Since management of radioactive waste needs to be aligned with the disposal solutions, timely determination of integrated national policy and strategy is essential for the safe and effective management of radioactive waste.

Part of such a management plan is the requirement to treat these wastes to meet the Waste Acceptance Criteria (WAC) for conditioning, storage, disposal or free release. Many technologies, thermal and non-thermal, are operational world-wide to treat radioactive waste suitable to be conditioned, or storage or disposed. When considering a particular technology selection to meet a specific treatment requirement the entire operation is important and not just the treatment technology when planning a treatment strategy. A full economic assessment regarding operating costs, maintenance costs, and decommissioning costs, installation cost must be included in the overall evaluation. It is often more economical to make use of centralized or regional waste treatment facilities, especially for very expensive processes.

Additionally, conditioning of treated radioactive waste as part of the waste management cycle is defined as those operations that transform treated radioactive waste into a suitable form (i.e. a waste package) for handling, transport, storage and/or disposal. Conditioning often includes immobilization of radionuclides, containerization of the waste, and additional packaging (overpacking). The motivation for conditioning must be clearly defined in order to select an appropriate conditioning method. Conditioning may be performed for different reasons for instance: standardization of practices and/or waste forms, technical requirements as determined by repository design or safety case, transport requirements, societal preferences, regulatory preferences, etc.

There is a continuous need to improve technology to enhance and strengthen the technical capacity, efficiency and safety for radioactive waste management techniques and technologies.

Expected Outputs

As a result of the workshop participants will be able to do:

- Listing key factors influencing the selection of processing technologies for different waste streams;
- Demonstrate the interlinkages between the waste stream, selected processing technologies, waste package and waste acceptance criteria; and
- Application of workshop information in group exercises to propose efficient and cost-effective waste management processes for different waste streams.

Scope and Nature

The five-day regional workshop will include lectures, structured discussions and underpinned by field trips designed to reinforce the main learning points that highlight different requirements and illustrate best international practices and approaches regarding available treatment and conditioning technologies (including waste packages).

The workshop will include participants presentations outlining experience and needs in their own Member State relating to available treatment and conditioning technologies.

The following topics will be covered in the workshop:

- Analysis of typical streams of L&IL radioactive solid waste requiring treatment and conditioning.
- Considerations when selecting a waste treatment strategy, such as alignment with national and local policies and strategies, waste minimization, regulatory compliance, societal and other considerations, and constraints.
- Pre-treatment technologies of L&IL radioactive waste (segregation and sorting, size reduction, compaction and decontamination);
- Treatment technologies of L&IL radioactive waste (super compaction, drying, incineration, pyrolysis, plasma, metal melting, steam reforming);
- Conditioning technologies (cementation, bituminization, vitrification and Hip(ping))
- Comparative analysis technical options for treatment and conditioning technologies of L&IL radioactive waste;
- Use of mobile units for treating and conditioning of L&IL radioactive waste.

Participation

The workshop is open to Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Georgia, Greece, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Montenegro, Malta, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Tajikistan, Turkmenistan, North Macedonia, Turkey, Ukraine, and Uzbekistan. All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

Participants' Qualifications and Experience

Participants should be radioactive waste owners or planners who are responsible for establishing treatment and conditioning technologies as part of radioactive waste management activities at either a facility or at national level. Please note that participants will be expected to prepare presentations or share information outlining their experience or future plans regarding the processing of radioactive waste highlighting challenges and problematic processing issues.

Occupational Exposure to Radiation

This event may involve occupational exposure to radiation. Therefore, candidates are required to duly complete and return the Occupational Exposure History (OEH) form upon applying for the event. The IAEA will provide selected participants in due course with a dosimeter to monitor their occupational exposure during this event.

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. Search for the relevant technical cooperation event (EVT1907937) 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.

Should online application submission not be possible, candidates may download the nomination form for the meeting from the [IAEA website](#).

NOTE: A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration.

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 American Express, or a travel grant, 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 event, 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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