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IAEA
International Atomic Energy Agency
Atoms for Peace and Development

International Conference on Nuclear and Radiological Emergencies: Building the Future in an Evolving World

Riyadh, Saudi Arabia

1–4 December 2025

Organized by the
International Atomic Energy Agency (IAEA)

Hosted by
The Government of the Kingdom of Saudi Arabia

Through
The Nuclear and Radiological Regulatory Commission of Saudi Arabia

Announcement and Call for Papers

A. Background

The emergency preparedness and response (EPR) framework for nuclear and radiological emergencies is adaptable to an evolving world. Envisioning the future of EPR includes anticipating emerging threats and hazards and embracing new technologies to enhance our response capabilities. This International Conference will discuss how Member States and International Organisations consider these factors to maximize their EPR effectiveness, sustainability, and resilience.

While the responsibility for developing, maintaining, and strengthening nuclear and radiological EPR arrangements rests with the national authorities in Member States, the IAEA plays the central role in fostering the international EPR framework for nuclear and radiological emergencies. The IAEA develops guidance on EPR that provides Member States with a reference for developing and sustaining robust EPR arrangements. The guidance covers all areas of nuclear and radiological EPR. This includes support in understanding and implementing the latest concepts and principles, as outlined in the IAEA Safety Standards; assistance in the design, conduct and evaluation of emergency exercises; and technical support to national and regional capacity-building projects. This conference is in line with this mandate.

The IAEA's Incident and Emergency Centre (IEC) was established in 2005 to serve as a global focal point for preparedness and response to any nuclear and radiological incident or emergency arising from any cause or combination of causes, such as natural events, human error, mechanical or other failure, or nuclear security events. The IEC supports Member States in fulfilling their national and international undertakings and obligations, including those under the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention).

B. Purpose and Objectives

The purpose of the event is to foster an exchange of information and enhance global awareness of crucial emergency preparedness and response topics. This will be achieved by discussing advancements at national and international levels; addressing challenges and opportunities; sharing experiences; and evaluating current and future trends, innovative technologies and approaches and lessons from real-life events. Additionally, the Conference aims to identify priorities for improving preparedness and response to nuclear and radiological emergencies to ensure readiness in a rapidly evolving world.

C. Themes and Topics

Abstracts, presentations, posters, and papers relevant to EPR on the following topics are invited to be submitted:

Innovative technologies for EPR: Opportunities, Lessons Learned and Challenges

Examples include:

- Digital tools
    - Artificial Intelligence, Natural Language Processing, Data Science
    - Digital Twins
    - Telemedicine and remote assistance for radiological injuries
    - Communication and notification
    - Radiological assessment

- Virtual tools
    - Virtual Joint Information Center
    - Virtual Emergency Operations Centre
    - Virtual/Augmented Reality training
    - Simulation/exercises

- Remote controlled and Autonomous devices
    - Drones
    - Robots
    - Optical monitoring devices

Challenges and proposed solutions in Protection Strategies

Examples include:

- Emerging reactor technologies such as advanced reactors, small modular reactors (SMRs), and floating nuclear power plants (FNPPs), including legal and regulatory considerations, Emergency Planning Zones (EPZs), and public acceptance
- Nuclear Harmonisation and Standardization Initiative (NHSI) for SMRs
- Assessment and prognosis
- Radiation monitoring strategy
- International Radiation Monitoring Information System (IRMIS) expansion
- Protection of the Public
- Protection of emergency workers and helpers
- Protection of food, agricultural products, water, and other aspects of the environment
- Environmental assessment
- Emergency response in non-permissive environments due to:
    - armed conflicts
    - natural disasters
    - industrial accidents
    - infectious outbreaks
    - other global crises
- Implications of new transport technologies including commercial maritime nuclear propulsion, drone transport of radioactive sources, electric/hydrogen-powered ground transport, and autonomous vehicle transport

Termination, recovery and long-term response considerations

Examples include:

- Good practices and lessons learned
- Transition from emergency exposure situation to existing exposure situation
- Preparedness and response aspects in mitigating the long-term impact
- Non-radiological impacts

Nuclear Safety/Security Interface

Examples include:

- Impact on protective measures
- Effective arrangements for information sharing
- Balancing effective law enforcement and public safety
- Harmonisation in transboundary emergencies

Supporting First Responders: fire, police, civil protection, medical, military-civilian disaster response

Examples include:

- Training, exercises and guidance/information materials
- Past experiences and lessons learned
- Challenges and considerations
- Use of innovative tools for dose monitoring (e.g., autonomous devices, virtual tools, remote monitoring, etc.)

Capacity Building

Examples include:

- Drill and exercise programs
- Feedback from ConvEx-3
- Opportunities for training, knowledge management, and education (Post-graduate programmes)
- Capacity Building Centres, and Member States offering capacity building
- Good practices on national training programmes, including classroom, remote, hybrid, and hands-on/practical training
- Capacity/Skill/Knowledge retention

Communication in Emergencies

Examples include:

- Advances in coordinating and delivering timely, clear, accurate, understandable, empathetic, and consistent messages
- Communicating across local, national regional, and international levels
- Communication strategies to mitigate radiological consequences (e.g. how people can reduce their own exposure)
- Communication strategies to mitigate non-radiological consequences
- Knowing your audience - the shift toward public acceptance of nuclear power
- Building trust in authoritative information
- Data to support an understanding on how disinformation and deception potentially trigger unwarranted behaviours
- Public communication strategies for facilitating termination and recovery
- Communication systems resiliency
- Dealing with social media during an emergency

Public Health and Medical Response

Examples include:

- Medical triage and management of mass casualty event
- Advances in bioassay and biodosimetry
- Practical aspects of iodine thyroid blocking (ITB)
- Management of psychological impacts
- Addressing other non-radiological consequences, either acute or long-term
- Lessons from COVID and other mass public health threats with application to EPR
- Development of radionuclide decorporation agents
- Decontamination
- Medical follow-up programmes

Coordination and Cooperation Mechanisms in Emergency Preparedness and Response

Examples include:

- Training, procurement, interoperability, mobility of resources
- Unified Command and Control System (UCCS) features & principles
- All-hazards approach
- Convention on Assistance - International Assistance: RANET experiences and perspectives
- Experiences in operating an Emergency Operations Centre
- Regional cooperation arrangements
- Lessons learned from coordinating different assistance mechanisms

Strategy for Establishing EPR arrangements for radiological emergencies in every Member State

Examples include:

- Non-nuclear and nuclear neighbours - harmonisation
- Border control
- Scrap metal
- High-activity radioactive sources
- Conditions for countries establishing radiotherapy and radiopharmaceutical programmes (e.g., IAEA Rays of Hope initiative)
- Addressing nuclear and radiological emergencies within a national all-hazard emergency management system
- Radiological transport incidents and accidents
- Loss or theft of dangerous radioactive sources
- Malicious acts involving radioactive or nuclear material

D. Structure

The Conference will cover the entire spectrum of nuclear and radiological EPR. It will consist of an opening session, plenary sessions with high-level invited speakers, strategic discussions, a scenario-based policy discussion, and technical sessions. If circumstances allow, side events, including round table discussions, refresher workshops, as well as displays, exhibits and demonstrations of instruments, publications, educational tools and assessment methods and tools will be offered.

The first two days of the conference are primarily, but not exclusively, aimed at strategic discussions between senior level officials; the remaining days are primarily aimed at technical presentations and discussions. The closing session will include a summary of the main conclusions of the conference, delivered by the Conference President, with closing remarks by the IAEA.

E. Expected Outcomes

The conference will provide an opportunity to examine and discuss emerging EPR issues to enable Member States to develop, enhance and sustain their capability to prepare for and effectively respond to nuclear and radiological emergencies. Technical sessions will foster an exchange of information on EPR best practices and future trends, use of technology, lessons learned from real-life events, and will identify priorities for improving preparedness and response to nuclear and radiological emergencies in the face of any threat or hazard.

F. Target Audience

The conference is aimed at senior level officials and technical experts in EPR. Contributions are invited from: regulatory bodies, response organizations (such as medical services, law enforcement and civil protection), operating organizations, technical support organizations, and others involved in EPR for nuclear and radiological incidents and emergencies. Participation from early career professionals, researchers, civil society organizations, and members of academic institutions is encouraged.

G. Call for Papers

Contributions on the topics listed in Section C are welcome as oral or poster presentations. All submissions, apart from invited papers, must present original work, which has not been published elsewhere.

G.1. Submission of Synopses

Synopses (approximately 500 to 600 words on one or a maximum of two A4 pages, may contain any charts, graphs, figures and references) should give enough information on the content of the proposed paper to enable the Programme Committee to evaluate it. Anyone wishing to present at the conference must submit a synopsis in electronic format using the conference's file submission system (IAEA-INDICO), which is accessible from the conference web page (see Section Q). The synopsis can be submitted through this system from **5 November 2024** until **2 May 2025**. Specifications for the layout will be available on IAEA-INDICO. The system for electronic submission of synopsis, IAEA-INDICO, is the sole mechanism for submission of contributed synopsis. Authors are encouraged to submit synopsis as early as possible. The IAEA will not accept submissions via email.

In addition, authors must register online using the InTouch+ platform (see Section H). The online registration together with the auto-generated Participation Form (Form A) and Form for Submission of a Paper (Form B) must reach the IAEA no later than **2 May 2025**.

IMPORTANT: The Programme Committee will consider uploaded synopses only if these two forms have been received by the IAEA through the established official channels (see Section H).

G.2. Acceptance of Synopses

The Secretariat reserves the right to exclude synopses that do not comply with its technical or scientific quality standards and that do not apply to one of the topics listed in Section C.

Authors will be informed by **4 July 2025** as to whether their submission has been accepted, either orally or as a poster, for presentation at the conference. Accepted synopses will also be reproduced in an unedited electronic compilation of Synopses which will be made available to all registered participants of the conference.

G.3 Proceedings

Following the conference, the IAEA will publish a summary report. The proceedings will be made available to read online.

H. Participation and Registration

All persons wishing to participate in the event must be designated by an IAEA Member State or should be a member of an organization that has been invited to attend.

Registration through the InTouch+ platform:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):

- Persons with an existing NUCLEUS account can **sign in here** with their username and password;
- Persons without an existing NUCLEUS account can **register here**.

2. Once signed in, prospective participants can use the InTouch+ platform to:

- Complete or update their personal details under 'Basic Profile' (if no financial support is requested) or under 'Complete Profile' (if financial support is requested) and upload the relevant supporting documents;
- Search for the relevant event (**EVT2306601**) under the 'My Eligible Events' tab;
- Select the Member State or invited organization they want to represent from the drop-down menu entitled 'Designating authority' (if an invited organization is not listed, please contact Conference.Contact-Point@iaea.org);
- If applicable, indicate whether a paper is being submitted and complete the relevant information;
- If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);

- Based on the data input, the InTouch+ platform will automatically generate Participation Form (Form A), Form for Submission of a Paper (Form B) and/or Grant Application Form (Form C);
- Submit their application.

Once submitted through the InTouch+ platform, the application together with the auto-generated form(s) will be transmitted automatically to the required authority for approval. If approved, the application together with the form(s) will automatically be sent to the IAEA through the online platform.

NOTE: Should prospective participants wish to submit a paper or request financial support, the application needs to be submitted by the specified deadlines (see section O).

For additional information on how to apply for an event, please refer to the InTouch+ Help page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

If it is not possible to submit the application through the InTouch+ platform, prospective participants are requested to contact the IAEA's Conference Services Section via email: Conference.Contact-Point@iaea.org.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

I. Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the conference.

If participants wish to apply for a grant, they should submit applications to the IAEA using the InTouch+ platform through their competent national authority (see Section H). Participants should ensure that applications for grants are submitted by **2 May 2025**.

Applications must be accompanied by Participation Form (Form A) and Grant Application Form (Form C) which are autogenerated in the InTouch+ platform.

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually covers **only part of the cost of attendance**.

J. Distribution of Documents

A preliminary and final programme will be made available on the conference web page (see Section Q) prior to the start of the conference. The electronic compilation of synopses will be accessible free of charge to participants registered for the conference.

K. Exhibitions

A limited amount of space will be available for commercial vendors' displays/exhibits during the conference. Interested parties should contact the Scientific Secretariat by email EPR-2025@iaea.org by **2 May 2025**.

L. Working Language

The working language of the conference will be English. All communications must be sent to the IAEA in English.

M. Venue and Accommodation

The conference will be held in Riyadh, Saudi Arabia. Detailed information on accommodation and other relevant matters will be sent to all designated participants approximately three months before the conference. This information will also be made available on the conference web page.

N. Visas

Designated participants who require a visa to enter the Kingdom of Saudi Arabia should submit the necessary application to the nearest diplomatic or consular representative of the Kingdom of Saudi Arabia as soon as possible. Further advice and instructions will be made available on the conference web page approximately three months prior to the start of the event. (see Section Q).

O. Key Deadlines and Dates

Submission of synopses through IAEA-INDICO	**2 May 2025**
Submission of Form B (together with Form A) through the InTouch+ platform	**2 May 2025**
Submission of Form C (together with Form A) through the InTouch+ platform	**2 May 2025**
Notification of acceptance of synopses for oral or poster presentation	**4 July 2025**
Submission of Form A only (no paper submission, no grant request) through the InTouch+ platform	**24 November 2025**

P. Conference Secretariat

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on administrative matters to the IAEA's Conference Services Section.

Q. Conference Web Page

Please visit the IAEA conference web page regularly for new information regarding this conference.