

## Peer Review Service for Emergency Preparedness and Response Reaches 20 Year Milestone

Nicole Virgili, IAEA Department of Nuclear Safety and Security



An interview is held during the EPREV mission to Canada in June 2019. Interviews are discussions between the EPREV Team reviewers and the Host State counterparts to promote a two-way exchange of information relevant to emergency preparedness and response. (Photo: CNSC/CCSN)

A review service assessing emergency preparedness for nuclear and radiological emergencies in countries around the world is 20 years old this year. It continues to generate interest from Member States, who invite IAEA experts and other peers to assess their preparedness and response plans.

Launched in 1999, the Emergency Preparedness Review (EPREV) is a service provided by the IAEA's Incident and Emergency Centre to review countries' emergency preparedness based on international safety standards.

The IAEA has conducted 48 EPREV missions in 43 countries around the world.

"EPREVs reinforce global nuclear safety by helping host countries identify where they need to strengthen their emergency preparedness and response (EPR) capabilities for nuclear and radiological emergencies," said Juan Carlos Lentijo, IAEA Deputy Director General and head of the Department of Nuclear Safety and Security. "We see a growing interest in EPREVs, in particular from countries that are operating nuclear power plants. Canada, which hosted an EPREV just a few months ago, is one example".

Michael Scott, Director of the Division of Emergency Preparedness and Response in the Office of Nuclear

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Security and Incident Response at the U.S. Nuclear Regulatory Commission (NRC), who has led several EPREV review missions, said “It is important to understand that an EPREV mission does not intend to ‘solve’ issues. It is the requesting State that finds the optimal solutions to address EPREV recommendations, tailored to their own context and building on their existing strengths.”

EPREVs have adapted as the international EPR framework has grown. In 2015, the EPREV report was restructured in line with the publication of revised IAEA safety requirements on EPR and, in 2016, it became a pre-requisite for host countries to carry out a self-assessment on the IAEA Emergency Preparedness and Response Information Management System before an EPREV mission. In 2018, the EPREV Guidelines were published in the IAEA Services Series and are now publicly available. (<https://www.iaea.org/publications/13417/emergency-preparedness-review-eprev-guidelines>)

The United Arab Emirates (UAE) requested an EPREV Follow-Up mission for 2019, as they near completion of their first nuclear power plant. “The cooperation with the IAEA, by hosting EPREV missions, has been instrumental in supporting the UAE’s efforts to build its EPR system. It also reflects the UAE’s commitments in applying international best practices to ensure safety of the public and the environment,” said Christer Viktorsson, Director-General of the UAE’s Federal Authority for Nuclear Regulation (FANR). “Hosting the EPREV’s Follow-Up mission in 2019 is yet another acknowledgement of the UAE’s commitment to recommendations made by international experts to continuously improve its emergency preparedness system to address any nuclear or radiological emergency that might occur in the country in cooperation with all relevant stakeholders nationally and internationally.”

## The future of EPREV

The IAEA continues to evolve the EPREV service, based on feedback from its Member States. This includes setting goals for including more diverse regional and technical expertise as well as reaching gender parity in EPREV teams; strengthening support for Member States’ development and implementation of the post-EPREV national action plans; and more effectively sharing good practices identified during EPREV missions internationally through new databases and regularly scheduled technical meetings.

“The IAEA continues its work to strengthen this service based on the experience of the experts and on feedback from the host countries”, said Mr Lentijo.

*A Side Event at the General Conference on “Twenty Years of Emergency Preparedness Review (EPREV): Experience and Way Forward” will be held on Wednesday, 18 September 2019, from 2.00 p.m. to 3.00 p.m. in Conference Room C4, C building, seventh floor.*

## From Constant Pain to Walking Again: The Story of a Radiation Patient



A 1997 IAEA mission provided help to Georgia’s authorities in dealing with an emergency situation caused by a misplaced source. (Photo: IAEA)

In 1997, a radiological accident in Lilo, Georgia resulted in the exposure of 11 people to high doses of radiation over an extended period of time. The exposed persons developed severe radiation induced skin injuries. Upon request, the IAEA provided assistance to Georgia and all of the 11 people received medical treatment. However, the health of one of them, referred to as “Patient 3CG” to protect his identity, highly deteriorated in 2016. Upon a new request for assistance by Georgia, with support from the Government of France, facilitated by the IAEA earlier this year, Patient 3CG received follow-up medical treatment which has significantly improved his quality of life.

“I was unable to walk without support, I was in constant pain and I feared about my future,” said Patient 3CG about his life following his accidental exposure to radiation. “Thanks to international cooperation, I have an improved life. I am grateful for the highly competent and experienced multidisciplinary team who worked together to help me”.

## Radiation burns from radioactive sources out of regulatory control

Patient 3CG is a 43-year-old man living in Georgia. He was a soldier in the Georgian Army in 1997, stationed at the Lilo Training Detachment of Frontier Troops, not far from the capital, Tbilisi. Between April and August 1997, Patient 3CG and 10 other soldiers developed skin lesions and experts diagnosed these as severe radiation burns. Georgia requested assistance from the IAEA in October 1997 to evaluate the radioactive contamination at the site and to examine and treat the 11 patients. The patients were treated at specialized hospitals in France, Germany and Russia. The IAEA further supported Georgia in the recovery of the radioactive sources, the characterization of the sources and in the performance of a radiological survey of the accident site.

After investigation of the site, it was determined that sealed radiation sources were stored without following

established regulatory procedures. This resulted in the radiation exposure of the 11 persons.

Patient 3CG was taken to the Percy Military Hospital in France in 1997 for a skin autograft. His health improved after the skin autograft and the subsequent treatment in 1997 and 1998. However, his medical condition deteriorated in the last decade. In May 2016, the IAEA Incident and Emergency Centre received a request from the Georgian Agency of Nuclear and Radiation Safety for additional medical assistance for Patient 3CG.

“The health situation of Patient 3CG was critical. No local physicians could provide the required specialized care in Georgia and we requested the support of the IAEA through the IAEA Response and Assistance Network (RANET), in accordance with the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency,” said Levan Davitashvili, Georgia’s Minister of Environmental Protection and Agriculture.

In March 2019, Patient 3CG was brought once again to the Percy Military Hospital in France. He received innovative medical treatment jointly provided by the French Institute for Radiological Protection and Nuclear Safety (IRSN), Armed Forces Blood Transfusion Center (CTSA) and the Percy Military Hospital.

“It was clear Patient 3CG was in a great deal of pain and had been for some time. His walking function was limited and the impact on his quality of life was severe. We chose to proceed with plastic surgery, a Taylor flap combined to Mesenchymal Stem Cell injections”, said Professor Eric Bey, Head of the Plastic Surgery Department, Percy Military Hospital.

“The patient represented a complex case from a medical perspective due to the characteristics of the irradiation and consequent local radiation injury. This evolution is well known with recurrences of injuries with new necrosis and risk of malignant transformation many years post irradiation so by documenting the medical procedures and reporting on them, we can use the case as a learning opportunity for other countries. It is important to perform local treatment and psychological support as part of the clinical follow up of this irradiated patient”.

Patient 3CG’s radiation injury is now healed, and he has no open wounds. He is able to walk again and he is not under the unbearable constant pain he had to live with for years.

## RANET

RANET is an IAEA mechanism to support States in fulfilling their obligations under the Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency. RANET helps to minimize the actual or potential radiological consequences of a nuclear or radiological incident or emergency for health, environment and property. It also allows for advice and assistance to be passed on to the requesting State on response activities undertaken on the scene of an emergency to mitigate its impact.

*A side event during the 2019 General Conference will explore the results of the assistance mission with inputs from Georgia, France and the IAEA. Patient 3CG will speak in a video message. Wednesday, 18 September 2019, 11 a.m. in Conference Room M5.*

Further details about the radiological accident at Lilo, Georgia, can be found in the IAEA Accident Report. (<https://www.iaea.org/publications/5968/the-radiological-accident-in-lilo>)

## Trainees in Latin America and the Caribbean Learn Radiation Emergency Management at IAEA School



36 participants from 16 Latin American and Caribbean countries are attending the three-week capacity-building event. (Photo: L. Bueno/IRD)

During a nuclear or radiological emergency, well-trained responders must act quickly and decisively to mitigate the consequences for the public and the environment. The IAEA’s School of Radiation Emergency Management (<https://www.iaea.org/services/education-and-training/school-of-radiation-emergency-management>) helps countries maintain responders’ readiness. At a recent School in Rio de Janeiro, Brazil, 36 participants from 16 Latin American and Caribbean countries enhanced their ability to develop and implement emergency preparedness and response (EPR) arrangements for nuclear and radiological emergencies.

Since its pilot launch in 2015, more than 400 experts have studied the principles and best practices that underpin effective EPR arrangements at 12 Schools held in eight countries. From the 26 August to 13 September, the School in Rio de Janeiro was hosted by Brazil’s National Nuclear Energy Commission (CNEN).

The School features lectures, discussions on several case studies related to emergency response, practical sessions and field and table-top exercises. During the three-week School, the participants, who are emergency responders,

develop specialised knowledge required to operate emergency management systems, implement protective actions and communicate with the public in nuclear and radiological emergencies. All elements of the training course are based on the relevant IAEA Safety Standards (<https://www.iaea.org/resources/safety-standards>) and guidelines. In Brazil, participants took part in a radiological emergency exercise based on what happened during the 1987 Goiânia radiological accident. (<https://www.iaea.org/publications/3684/the-radiological-accident-in-goiania>)

“This unique opportunity offered by CNEN uses lessons learned and best practices from past emergencies to help the participants implement the knowledge gained during lectures,” said Raul Dos Santos, Head of the CNEN Emergency Division, and a School lecturer.

**“Our attendance at this School reflects our commitment to strengthening EPR arrangements in Latin America and the Caribbean.”**

Herman Zárate Segovia,  
Alternate Emergency  
Coordinator in the Emergencies  
and Nuclear Security Section,  
Chilean Nuclear Energy  
Commission

Countries that host the School showcase their facilities and procedures to the participants during technical visits. In Brazil, the students visited the Naval Marcilio Dias Hospital, CNEN’s laboratory of radiation sources, the Almirante Álvaro Alberto Nuclear Power Plant and the Chemical, Biological, Radiological and Nuclear Defense

Battalion where they learned how Brazil prepares for an emergency response.

“Our attendance at this School reflects our commitment to strengthening EPR arrangements in Latin America and the Caribbean,” said Herman Zárate Segovia, Alternate Emergency Coordinator in the Emergencies and Nuclear Security Section of the Chilean Nuclear Energy Commission. “The lectures, exercises, technical visits and discussions with counterparts in the region have given us participants the opportunity to exchange experience with other colleagues and instructors, and I will use this new knowledge in my own organization, to complement our national EPR systems”.

Member States seeking information on the School can contact the IAEA Incident and Emergency Centre.

## Related stories

First Caribbean Students Graduate from IAEA School of Radiation Emergency Management (<https://www.iaea.org/newscenter/news/first-caribbean-students-graduate-from-iaea-school-of-radiation-emergency-management>)

## Related resources

School of Radiation Emergency Management (<https://www.iaea.org/services/education-and-training/school-of-radiation-emergency-management>)

PRESS RELEASE

# IAEA Reviews Canada’s Emergency Preparedness and Response Framework



Flag of Canada (Photo: Jared Grove/Wikipedia)

An International Atomic Energy Agency team of experts concluded an 11-day mission in June 2019 to review Canada’s Emergency Preparedness and Response (EPR) framework for nuclear and radiological emergencies. The Emergency Preparedness Review (EPREV) was carried out at the request of the Canadian Government.

The mission focused on preparedness for emergencies stemming from events at nuclear power plants. Canada operates 19 reactors at four sites, generating about 15 percent of its electricity. Canada also develops and exports reactor technology.

Michael Scott, Director of the Division of Emergency Preparedness and Response in the Office of Nuclear Security and Incident Response of the U.S. Nuclear Regulatory Commission (NRC), led the 11-person review team, which also included experts from Australia, Finland, France, Germany, the Republic of Korea, Romania, South Africa, Sweden and the IAEA.

“Preparations by the Canadian Government for this review were clear, focused and effective,” said Mr. Scott. “The findings of this mission will help Canada to further enhance its EPR system.”

IAEA Deputy Director General Juan Carlos Lentijo, Head of the Department of Nuclear Safety and Security, noted that Canada was the first country with a large nuclear power programme to host an EPREV. “I hope others will follow suit,” Mr. Lentijo said.

The EPREV team identified several strengths in Canada’s EPR framework, including:

- A well developed and mature EPR system is in place across all levels of government.
- The Government has developed a streamlined approach for the timely processing of liability claims relating to nuclear or radiological emergencies.

The team also made suggestions to strengthen emergency preparedness and response, including:

- The Government should include justification and optimization in the protection strategy.
- The Government should develop a detailed monitoring strategy to optimize the use of monitoring capabilities and resources.
- The Government should develop detailed arrangements for formally terminating a nuclear emergency.

The Government intends to develop an action plan to address the recommendations and suggestions in the report and to host a follow-up EPREV mission in approximately 2 to 4 years. The Government plans to make the report public upon completion in early 2020.

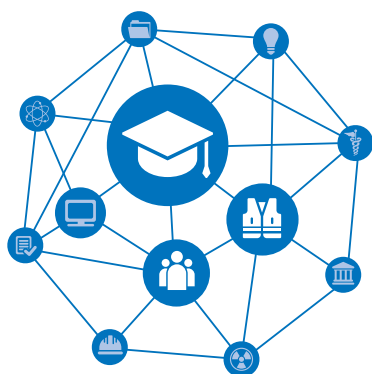
### About EPREV Missions

EPREV missions are one of the peer reviews offered by the IAEA to strengthen nuclear safety in Member States. EPREV missions focus on the arrangements and capabilities to prepare for and respond to nuclear and radiological emergencies. EPREV missions are based on the IAEA safety standards in nuclear and radiological emergency preparedness response.

### Related resources

Emergency preparedness and response (<https://www.iaea.org/topics/emergency-preparedness-and-response-epr>)

## IAEA Establishes International Network of Capacity Building Centres on Emergency Preparedness and Response



The IAEA has established an international training and educational network aimed at strengthening emergency preparedness and response around the world. At a workshop held from 8 to 11 July 2019 in Vienna, the operational strategy for the International Network for Education and Training in Emergency Preparedness and Response (iNET-EPR) was developed.

The network's membership will be inclusive, engaging Member States that designated national Capacity Building

Centres for emergency preparedness and response (CBCs-EPR) to work in partnership with the Agency, Member States that plan to establish such centres, and Member States that join the network to learn and exchange expertise yet do not plan to designate a CBC-EPR.

Khammar Mrabit, Director General of the Moroccan Agency for Nuclear and Radiological Safety and Security (AMSSNuR) and Chair of the workshop, said "the IAEA Member States have clearly recognised the need for such a network to strengthen capacity building in EPR and maintain sustainability of robust national EPR systems. As a rich resource of academic educators and professional trainers, the CBCs-EPR will help to more efficiently disseminate and harmonize good practices among IAEA Member States to contribute to global efforts to enhance EPR".

***"As a rich resource of academic educators and professional trainers, the CBCs-EPR will help to more efficiently disseminate and harmonize good practices among IAEA Member States to contribute to global efforts to enhance EPR."***

Khammar Mrabit, Director General, Moroccan Agency for Nuclear and Radiological Safety and Security (AMSSNuR)

The iNET-EPR will bring together the academic educators and practical trainers who are currently developing and exchanging teaching and training materials. In the future, this network of Centres will support the IAEA as it develops a model curriculum in EPR for a Masters-equivalent programme and other postgraduate offerings.

### Related stories

IAEA Designates new Capacity Building Centre in Morocco for Emergency Preparedness and Response, First in Africa (<https://www.iaea.org/newscenter/news/iaea-designates-new-capacity-building-centre-in-morocco-for-emergency-preparedness-and-response-first-in-africa>)

### Capacity Building Centres

Since 2015 the IAEA supports Member States in establishing and maintaining capacity building centres on Emergency Preparedness and Response to ensure the rigor and sustainability of national EPR training. The CBCs-EPR serve as a focal point for EPR knowledge and associated technical skills in countries. CBCs-EPR have been established in Austria, China, Japan (Chiba Prefecture and Fukushima Prefecture), Morocco, Republic of Korea and the Russian Federation where EPR experts both receive education and training, as well as actively transfer knowledge on EPR methods, tools, and activities.

## Latin American Countries Build Expertise in Advanced Medical Response to Radiation Emergencies with IAEA Support



Physicians from Latin America taking part in the Regional Training Course on Advanced Medical Response to Radiation Emergencies, in Montevideo, Uruguay in May 2019. (Photo: IAEA)

Latin American countries are now better prepared to manage the medical consequences from nuclear or radiological emergencies, thanks to a five-year IAEA-supported effort that strengthened the region's readiness for a medical response to radiation emergencies.

An IAEA advanced regional training course for 19 physicians from 12 Latin American countries marked the conclusion of the project (<https://www.iaea.org/projects/tc/rla9085>), which was supported by the IAEA technical cooperation programme (<https://www.iaea.org/services/technical-cooperation-programme>). The course, held in Montevideo, Uruguay, focused on the medical management of acute radiation syndrome, local radiation injuries and internal radioactive contamination, as well as medical follow-up procedures. All participants had taken preparatory national IAEA training courses held as part of the project.

Lecturers from Japan, France and the USA conducted the May 2019 training programme, developed in consultation with Argentine and Brazilian experts as part of a process to strengthen international cooperation and inter-regional capacity building. To further foster regional capacity building, the course participants formed a network to sustain their collaboration and offer a hub for sharing the experiences that help the network members increase their skills.

“We have developed the capacity to integrate our medical training into the national emergency preparedness and response plans for radiological and nuclear emergencies in our countries”, said Dr Alfredo Herrera González, a medical doctor from the Hospital Hermanos Ameijeiras in Cuba. “The multiyear training was a real ladder of knowledge to climb, but it enabled us to build more skills than we could have in a one-off training.”

The course was based on relevant IAEA Safety Standards (<https://www.iaea.org/resources/safety-standards>) and Emergency Preparedness and Response Series Publications, including Medical Management of Persons Internally Contaminated with Radionuclides in a Nuclear or Radiological Emergency (<https://www-pub.iaea.org/books/iaeabooks/12230/Medical-Management-of-Persons-Internally-Contaminated-with-Radionuclides-in-a-Nuclear-or-Radiological-Emergency>), which was published last year.

### Related resources

Medical Management of Persons Internally Contaminated with Radionuclides in a Nuclear or Radiological Emergency (EPR-Internal Contamination, 2018) (<https://www.iaea.org/publications/12230/medical-management-of-persons-internally-contaminated-with-radionuclides-in-a-nuclear-or-radiological-emergency>)

Generic Procedures for Medical Response During a Nuclear or Radiological Emergency (EPR-Medical, 2005) (<https://www.iaea.org/publications/7213/generic-procedures-for-medical-response-during-a-nuclear-or-radiological-emergency>)

Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSR Part 7 (<https://www.iaea.org/publications/10905/preparedness-and-response-for-a-nuclear-or-radiological-emergency>)

## NEW CRP: Effective Use of Dose Projection Tools in the Preparedness and Response to Nuclear and Radiological Emergencies (CRP J15002)



Analytical decision support systems are used at different stages of the decision making process in the preparedness and response to a nuclear or radiological emergency. (Photo: IAEA)

Tools that enable radiation doses to be estimated are vital in preparation for and response to nuclear and radiological emergencies. A new IAEA Coordinated Research Project (CRP) will help improve the performance of such dose projection tools and support Member States in using them effectively.

In the preparedness phase, dose projection tools help assess the prospective radiological consequences of an emergency. Such assessments enable authorities to ensure that emergency preparedness and response (EPR) arrangements are commensurate with the hazards and the potential consequences of an emergency. Dose projection tools can, for example, be used to determine the size of the areas in which emergency response actions should be planned. In the response stage, arrangements for the use of analytical tools shall be made in due recognition of the limitations of the tools and in a way that would not reduce the effectiveness of response actions.

***“Analytical decision support systems, such as dose projection tools, are used to support decision making for nuclear or radiological emergencies, ... However, in some cases, the tools are not optimally integrated into EPR arrangements.”***

Phillip Vilar Welter, Emergency Preparedness Officer, IAEA

“Analytical decision support systems, such as dose projection tools, are used to support decision making for nuclear or radiological emergencies,” said IAEA Emergency Preparedness Officer Phillip Vilar Welter. “However, in some cases, the tools are not optimally integrated into EPR arrangements. This can hinder achieving the main goals of the response, including efforts to minimize radiation-induced health effects, maintain public trust and mitigate non-radiological consequences.”

EPR arrangements need to reflect both the potential and the limitations of analytical decision support systems in order to support successful emergency response efforts. The arrangements need to accommodate for the scarcity, unreliability and uncertainty of information, and the need to respond fast.

## CRP Overall Objective

This CRP aims to:

- Provide scientific evidence and expert judgement on the potentials and limitations of these models, including by comparing results from dose projection tools with real data obtained from past events.
- Create a better understanding of the tools’ strengths and weaknesses and their causes.
- Define possible improvements for their use at both the preparedness phase and the response stage for different emergency preparedness categories and events.

## Specific Research Objectives:

- Identify uses, advantages, uncertainties and limitations of dose projection tools in nuclear and radiological

EPR, based on their current and past use as well as lessons learned from experience.

- Perform a benchmark analysis of different dose projection tools against the releases and actual radiological conditions observed in past emergencies.
- Identify the main factors contributing to the tools’ performance in different types of emergencies and events.
- Make specific recommendations for the use of dose projection tools to better support their integration in radiation monitoring platforms, such as the IAEA International Radiation Monitoring Information System (IRMIS) or other platforms.
- Develop recommendations for an improved use of these tools to support emergency planning and management at the preparedness phase and the response stage.

## For whom is this CRP intended:

This CRP is intended to bring together research institutes and other interested organizations from all Member States who specialize in the use of dose projection tools to support decision-making in the preparedness and response to nuclear or radiological emergencies.

## How to join the CRP:

Proposals must be received no later than 15 November 2019. Please submit your Proposal for Research Contract or Agreement by email to the IAEA’s Research Contracts Administration Section, using the appropriate template on the CRA website.

The first research coordination meeting is planned to be held at the IAEA Headquarters in Vienna, from 20 to 24 January 2020.

For further information related to this CRP, potential applicants should use the contact form on the CRP page.

## Related stories

Can You Trust Your Newsfeed? New IAEA CRP Studies How to Mitigate the Harm of Misinformation in Nuclear Emergencies (J15001) (<https://www.iaea.org/newscenter/news/can-you-trust-your-newsfeed-new-iaea-crp-studies-how-to-mitigate-the-harm-of-misinformation-in-nuclear-emergencies-j15001>)

## Related resources

Coordinated Research Activities (<https://www.iaea.org/services/coordinated-research-activities>)

Division of Radiation, Transport and Waste Safety (<https://www.iaea.org/about/organizational-structure/department-of-nuclear-safety-and-security/division-of-radiation-transport-and-waste-safety>)

# Upcoming activities

## September

- **National Workshop on Developing a National Framework for Managing the Response to Nuclear Security Events**  
9-13 September 2019, Bangkok, Thailand  
<https://www.iaea.org/events/evt1901816>
- **National Workshop on Management of the Response to a Nuclear Security Event at Nuclear Facilities**  
16-20 September 2019, Rawalpindi, Pakistan  
<https://www.iaea.org/events/evt1804332>

## October

- **National Workshop on Contingency Response Performance Testing Exercises at Nuclear Facilities**  
8-11 October 2019, Paks, Hungary  
<https://www.iaea.org/events/evt1904886>
- **Regional Meeting on the Development of Basic Regulations on Emergency Planning**  
14-18 October 2019, Manila, Philippines  
<https://www.iaea.org/events/evt1900965>
- **Technical Meeting on 20 Years of EPREV: A Peer Review Service for Supporting EPR Improvement**  
14-18 October 2019, Vienna, Austria  
<https://www.iaea.org/events/evt1805596>
- **National Workshop on the Management of the Response to a Nuclear Security Event at Nuclear Facilities**  
21-24 October 2019, Amman, Jordan  
<https://www.iaea.org/events/evt1904828>
- **Workshop on the Implementation of the International Radiation Monitoring Information System (IRMIS)**  
21-24 October 2019, Vienna Austria  
<https://www.iaea.org/events/evt1805444>
- **Regional Workshop on Strengthening Capabilities to Respond to Port and Maritime Nuclear or Radiological Emergencies in the Mediterranean Countries**  
28-31 October 2019, Vienna, Austria  
<https://www.iaea.org/events/evt1805597>

## November

- **Workshop on Communication with the Public in a Nuclear or Radiological Emergency**  
11-15 November 2019, Miharu, Japan  
<https://www.iaea.org/events/evt1903637>
- **International Workshop on Nuclear Security Measures and Emergency Response Arrangements for Ports**  
11-15 November 2019, Las Vegas, NV, United States of America  
<https://www.iaea.org/events/evt1805601>
- **Regional Workshop on Developing a National Framework for Managing the Response to Nuclear Security Events**  
18-22 November 2019, Mostar, Bosnia and Herzegovina  
<https://www.iaea.org/events/evt1703791>
- **Regional Workshop on Developing a Protection Strategy for a Nuclear or Radiological Emergency**  
25-28 November 2019, Miharu, Japan  
<https://www.iaea.org/events/evt1805507>

## December

- **Train the Trainers Workshop on the International Nuclear and Radiological Event Scale**  
2-6 December 2019, Vienna, Austria  
<https://www.iaea.org/events/evt1901876>
- **Ninth Meeting of the Emergency Preparedness and Response Standards Committee (EPReSC)**  
3-6 December 2019, Vienna, Austria  
<https://www.iaea.org/events/evt1805372>
- **Pilot Training Course on Preparedness and Response for a Nuclear or Radiological Emergency Combined with Other Incidents or Emergencies**  
9-13 December 2019, Traiskirchen, Austria  
<https://www.iaea.org/events/evt1805558>
- **International Conference on Radiological Emergency & Management (ICONRADEM2019)**  
9-11 December 2019, Jaipur, India  
<https://www.iaea.org/events/54395>

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