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ConvEx-3 (2013) Exercise

ConvEx exercises (Convention Exercises) are prepared for Member States and relevant international organizations by the IAEA under the framework of the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency. These exercises are carried out at three levels of complexity with the third level (ConvEx-3) being a full scale exercise prepared every three to five years within the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE), which comprises 17 international intergovernmental organizations.

ConvEx-3 (2013), code-named 'Bab Al Maghrib', was hosted by Morocco and designed to allow Member States and international organizations to evaluate their response in a severe radiological emergency triggered by a nuclear security event and to identify emergency preparedness and response (EPR) areas requiring improvements.

The exercise was conducted on 20 and 21 November 2013 and lasted approximately 25 hours. Fifty-nine Member States (including Morocco) and ten international organizations (including the IAEA) participated in the exercise.

Twenty-four of the participating Member States and six of the international organizations participated in the exercise at the highest level possible (Level B) to actively test their EPR arrangements and capabilities for responding to such an event, and to test the sharing and exchange of information internationally. During the exercise, several Member States actively offered their national assistance capabilities to the exercise Accident State (Morocco). It was the first time in the history of ConvEx-3 exercises that country specific injects were prepared in a way that required specific Member State responses.

The active participation of relevant international organizations (including INTERPOL and EUROPOL), information sharing, response coordination and sharing public updates among press officers of these organizations contributed to a harmonized international response and consistent information to the public. The active role played by the Agency's Director General, senior Agency staff and the Moroccan management in the exercise helped to stress the importance of conducted exercises.



IEC Centre Head E. Buglova briefing IAEA Director General Yukiya Amano on the status of the ConvEx-3 exercise. 20 November 2013.
(Photo Credit: D.Calma/IAEA)

Chief evaluators from Member States and international organizations, including the IAEA, are currently preparing evaluation reports. Based on these reports, the Lead Exercise Evaluator (IAEA) will prepare a final Exercise Report, which will be discussed at the ConvEx-3 (2013) evaluation meeting taking place in Vienna on 11–12 February 2014.

The initial assessment and feedback underscore that this exercise was well prepared and achieved its objectives. The Incident and Emergency Centre (IEC) wishes to express gratitude to the Moroccan Government for providing the IAEA, its Member States and relevant international organizations the opportunity to evaluate their response to a severe radiological emergency.



Authorities in Morocco participating in a video conference during the ConvEx-3 (2013) 'Bab Al Maghrib' exercise. Rabat, 20 November 2013. (Photo Credit: CNESTEN, Morocco)

Continuous Improvements in Appraisal of Emergency Preparedness and Response

Between October and December 2013, the IEC conducted Emergency Preparedness Review (EPREV) preparatory missions in South Africa and Kuwait, and participated in Integrated Regulatory Review Service Missions (IRRS) in Belgium, the Czech Republic, the Russian Federation and the United States of America (preparatory mission). The IEC will conduct over eight EPREV missions and participate in ten IRRS missions in 2014.



The new nuclear power plant site under construction at Novovoronezh, Russian Federation. (Photo Credit: J.F. Lafortune/IAEA-IEC)

This heavy demand in appraisal services reflects the increasing appreciation by Member States of the value of independent international reviews of EPR arrangements. In combination, EPREV and IRRS missions (EPR module) provide a comprehensive assessment of the regulations and regulatory process' effectiveness in EPR, and of the national EPR capabilities to respond to nuclear or radiological emergencies, regardless of the cause. Indeed, this is the main difference between the EPR module of an IRRS and an EPREV mission. The IRRS EPR module focuses on the regulations' effectiveness and their consistency with IAEA safety standards in the area of EPR;

it examines the processes through which the regulatory body ensures that the (licensed) operating organizations have appropriate EPR arrangements. The EPREV focuses on the national EPR system's capabilities – of which the regulatory body is only a part – for responding to nuclear or radiological emergencies.

In the last quarter of 2013, a systematic review of methods and tools to conduct EPREV missions and the EPR module of the IRRS was initiated. The aim is to ensure a clear distinction between the two types of missions and provide a basis for the continuous improvement of EPR appraisal services. Significant changes have already been implemented to the IRRS EPR module methodology and review questionnaire. The module is now almost entirely focused on the regulatory body's regulatory role, rather than the emergency response framework. The guidelines for EPREV missions serve as a guide for examining EPR arrangements at all levels (including the regulatory body). These guidelines are in the process of being revised to reflect lessons learned from previous EPREV missions. Recent changes have introduced a more graded approach, a more robust and efficient way of conducting the review, and a requirement has been developed for both a preparatory mission and a follow-up mission for EPREV. A mandatory EPREV expert training package is also being introduced and will be finalized in 2014.

Technical Meeting on EPREV

A Technical Meeting on *Lessons Learned from Past Emergency Preparedness (EPREV) Missions* will be held in Vienna on 14–17 July 2014. Information is available at <http://www-pub.iaea.org/iaea meetings/47963/Technical-Meeting-on-Lessons-Learned-from-Past-Emergency-Preparedness-Review-EPREV-Missions>

IEC Response to Recent Events

Mexico – Dangerous source missing in Tepojaco

On 2 December 2013, Mexico's Nuclear Regulatory Authority informed the IAEA of the theft of a vehicle transporting a cobalt-60 teletherapy source. The 111 TBq (3000 Ci), Category 1 source was being transported from a hospital in Tijuana, Baja California, to the Radioactive Waste Storage Center in Maquixco, State of Mexico. The vehicle, along with the shielded source, was stolen at a gas station in Tepojaco, Hidalgo. The Mexican authorities initiated the search for the source immediately after the robbery. Public announcements were made to inform the public about the very severe health consequences that could occur for those who might be in contact with the source if it was unshielded.

The source was found on 4 December 2013 and recovered on 10 December 2013 near the town of Hueypoxtla, close to the location where the truck was stolen. The teletherapy head had been dismantled and the source had been removed from its shielding. However, the integrity of the source was not compromised. The people who potentially came close to the source were monitored and no contamination was found. One person was subjected to medical assessment in Mexico City after presenting himself with skin damage that indicated exposure to the source by carrying it over one shoulder.

Based on the information provided, the Mexican authorities and the IAEA consider that the general public remained safe during this event. The IAEA made an offer of good offices and stayed ready to provide assistance to Mexico, if requested.

Joint IAEA-HICARE Workshop on Medical Response to Radiation Emergencies

From 28 October to 1 November 2013, an international workshop on medical response to radiation emergencies was held in Hiroshima, Japan. The Hiroshima International Council for Health Care of the Radiation-Exposed (HICARE) organized the event in cooperation with the IAEA-IEC. This workshop was organized in the context of fostering international cooperation for medical actions and the management of patients overexposed to ionizing radiation, elaborated in the Practical Arrangements signed by then President of HICARE, Dr Hiroo Dohy, and the IAEA Director General, Mr Yukiya Amano, on 6 August 2010.

The workshop was attended by 31 participants (observers and trainees), from 8 different countries (Indonesia, Japan, Malaysia, Mongolia, the Republic of Korea, the Russian Federation and the United States of America). In addition, 12 lecturers from the following countries and institutions participated in the workshop:

- Hiroshima University, Japan;
- IAEA-IEC, Austria;
- IRSN (Institute for Radiological Protection and Nuclear Safety), France;
- IUHW (International University of Health and Welfare), Japan;
- NIRS (National Institute of Radiological Sciences), Japan;
- REAC/TS (Radiation Emergency Assistance Center/Training Site), USA;
- RERF (Radiation Effects Research Foundation), Japan; and
- Tokyo University, Japan.

The workshop focused on the medical response to nuclear and radiological emergencies. It included theoretical and practical activities such as the medical management of acute radiation syndrome and other health effects related to atomic bomb survivors. A practical module was organized where participants exercised the medical management of a patient externally contaminated by radioactive materials. The exercise was held in Hiroshima University Hospital's facilities. Other activities included a visit to the RERF to learn about the medical follow-up of atomic bomb survivors, and a visit to the Hiroshima Peace Memorial.

According to the objectives planned and the participants, lecturers and organizers' expectations, the workshop was very successful. The organizers have expressed their willingness to continue working in cooperation with the IAEA-IEC for future events in the field of medical response to radiation emergencies.



Participants during the exercise: the 'patient' entering the room for decontamination. Hiroshima, 29 October 2013. (Photo Credit: E Herrera Reyes/IAEA-IEC)

IEC Conducts Full Response Exercise

On 30 October 2013, the IEC conducted an internal Full Response Exercise, as part of the IEC's effort to enhance its internal training programme. The exercise was conducted from 09:00 to 12:00 (Vienna time) and allowed a number of recently trained staff members to practice their roles in the IAEA Incident and Emergency System.



The screening officer, the logistics officer and an evaluator testing their response skills during the Full Response Exercise, 30 October 2013. (Photo Credit: W. Gruenwald/IAEA-IEC)

The exercise scenario was a hypothetical large fire on a container ship carrying highly radioactive blood irradiator devices. A radioactive release into the environment was part of the scenario.

The exercise allowed the IEC to evaluate new assessment procedures, radiological monitoring data tools and a new tasks and information tracking tool. Over twenty IAEA staff members were involved in the exercise. Procedures

were tested with the IAEA Division of Public Information to ensure that the arrangements for informing the media and the public are efficient.

The IEC conducts four internal Full Response exercises each year. Since 2011, the IEC has simulated different scenarios of emergencies including, but not limited to, those triggered by nuclear security events. Where possible these exercises are conducted in conjunction with national and international emergency exercises with the official contact points from Member States and International Organizations, such as the ConvEx exercises.

The IEC is always looking for opportunities to participate in exercises with the relevant Competent Authorities in Member States. If you are interested in having the IEC participate in your national exercise, please contact the Centre at iec-information@iaea.org.



The IEC's operations area and IAEA staff members during the Full Response Exercise, 30 October 2013. (Photo Credit: W. Gruenwald/IAEA-IEC)

First IAEA Intern Exposition

On 11 December 2013, the IAEA, under the initiative of Deputy Director General, Head of the Department of Management, Ms Janice Dunn Lee, held its first *IAEA Intern Exposition*. The event was organized to recognize the important contribution of interns to the Agency. Eight interns from different IAEA departments were selected to showcase to IAEA senior management the work they have undertaken during their internships.

An intern from the IEC was one of the exposition's selected presenters. The IEC continuously welcomes interns to support the Centre's preparedness, response and outreach activities. The Centre contributes to the IAEA internship programme, which hires roughly 125 interns per year, by giving an opportunity for young people from different countries to contribute to the IEC's work and gain practical experience.

To read more about the first *IAEA Intern Exposition*:
<http://www.iaea.org/newscenter/news/2013/interns-contribution.html>

To read more about the IAEA internship programme and for an online application:
<http://www.iaea.org/About/Jobs/internships.html>



Deputy Director General, Head of the Department of Management, Ms Janice Dunn Lee with the eight selected interns after the IAEA Intern Exposition, 11 December 2013. (Photo Credit: M. Madsen/IAEA)

Second International Workshop at the Fukushima RANET Capacity Building Centre

As part of its work to strengthen Member State capabilities to prepare for and respond to nuclear or radiological emergencies, the IEC conducted a workshop in the Fukushima prefecture from 7–11 October 2013 on monitoring and sampling during a nuclear or radiological emergency. More than 20 participants from 7 Member States of the Asia and Pacific region (Indonesia, Malaysia, Myanmar, The Philippines, Singapore, Thailand and Vietnam) tested their skills during the five-day workshop, which offered both theoretical and hands-on training.



Participants getting familiar with the monitoring tools to be used during field exercises at the Fukushima RANET Capacity Building Centre, 6 October 2013. (Photo Credit: P. Vilar Welter/IAEA-IEC)

Working sessions were held at the IAEA RANET Capacity Building Centre in Fukushima. During the workshop's theoretical modules, participants were presented with the latest IAEA guidance for responding to severe emergencies at a nuclear power plant (the publication *EPR-NPP Public Protective Actions 2013*) and for responding to radiological emergencies (publication currently under development).

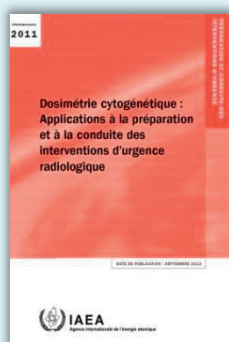
Two days were spent performing field exercises in Fukushima Prefecture areas that remain evacuated following the 2011 accident at TEPCO's Fukushima Daiichi Nuclear Power Station. The training area's conditions gave the participants an opportunity to learn crucial aspects of radiological monitoring and environmental sampling that need to be performed during a nuclear or radiological emergency.



Experts from Japan's Atomic Energy Agency supporting participants during soil sampling exercises performed in a field near the Fukushima Daiichi Nuclear Power Station, 9 October 2013. (Photo Credit: P. Vilar Welter/IAEA-IEC)

The support of the Fukushima Prefecture, the Ministry of Foreign Affairs of Japan and the Japan Atomic Energy Agency was greatly appreciated by organizers and participants. The participants had the opportunity to gain insight from the first-hand experience of the Japanese experts. IEC staff were supported by Australian, Japanese and Slovenian experts.

New Publication Translation



The publication *Cytogenetic Dosimetry: Applications in Preparedness for and Response to Radiation Emergencies* (EPR-Biodosimetry 2011) is now available in French. The joint IAEA/Panamerican Health Organization/World Health Organization publication provides technical information for selecting and implementing, in a standardized manner, the appropriate cytogenetic technique to ensure comparable dose assessment following accidental exposure to ionizing radiation. EPR-Biodosimetry 2011 is also available in English and has related training materials available in English (EPR-Biodosimetry/T 2012).

The new French translation of EPR-Biodosimetry 2011 is available at: iec.iaea.org. Just click on 'Technical Tools' on the right hand menu.

Member State Preparedness

To assist Member States with applying IAEA guidance in the area of EPR, 23 training events were conducted during the fourth quarter of 2013 at the interregional, regional, subregional and national levels:

Interregional level:

- Train-the-Trainers Workshop on INES (Austria, Vienna, 7–11 October);
- Training Course on First Response to Radiation Emergencies: Procedures for Ports and Customs Offices (RAPTER for custom officers) (USA, Nevada, 28 October–1 November);
- Training Course on the Application of the Requirements (GS-R-2), Guidance on General Aspects of Emergency Preparedness (GS-G-2.1) and Generic Criteria for Developing Operational Levels (GSG-2) (Austria, Vienna, 11–15 November);
- Training Course on Notification, Requesting and Reporting Assistance (Austria, Vienna, 12–14 November);
- Training Course on Medical Response to Radiation Emergencies (Japan, Chiba, 9–13 December);
- Training Course on Emergency Preparedness and Response (Austria, Vienna, 9–13 December).

Regional and subregional levels:

- Workshop on Medical Response to Radiation Emergencies (Japan, Chiba, 1–4 October);
- Workshop (ANSN) on Communication with the Public in a Nuclear or Radiological Emergency (Indonesia, Jakarta, 2–4 October);
- Workshop on Observing a Nuclear Emergency Exercise (Japan, Sapporo/Hokkaido, 7–10 October);
- Workshop on Monitoring during a Nuclear or Radiological Emergency (Japan, Fukushima, 7–11 October);
- Workshop on Developing a National Radiation Emergency Plan (NREP) in compliance with the IAEA Requirements and Guidance (Republic of Moldova, Chisinau, 21–25 October);
- HICARE Training Course on Medical Response to Radiation Emergencies (Japan, Hiroshima, 28 October–1 November);
- Training Course on Micronuclei and Radiobiological Basis of Radiation Protection (Argentina, Buenos Aires, 28 October–1 November);
- Workshop on Communication with the Public in a Nuclear or Radiological Emergency (Belgium, Brussels, 28 October–1 November);
- Training Course on Communication with the Public in a Nuclear or Radiological Emergency (Bolivia, La Paz, 9–13 December).

National level:

- Training Course on Radiation Air Monitoring (Belarus, Minsk, 14–18 October);
- Workshop on IAEA Basic Safety Standards (South Africa, Centurion, 21–25 October);
- Workshop for First Responders to a Radiation Emergency (for Afghanistan) (Austria, Vienna, 28 October–1 November);
- Workshop on IAEA Basic Safety Standards (The Philippines, Manila, 28 October–1 November);
- Training Course for First Responders to a Radiological Emergency (Nicaragua, Managua, 28 October–1 November);
- Workshop on Notification, Reporting and Requesting Assistance (Brazil, Rio de Janeiro, 5–7 November);
- Training Course on Basic Applications of Biodosimetry in Case of a Radiation Emergency (Bolivia, La Paz, 18–22 November);
- Workshop on Communication with the Public in a Nuclear or Radiological Emergency (United Arab Emirates, Abu Dhabi, 7–11 December).

In addition, the IEC implemented preparatory EPREV missions in South Africa (27–28 November) and Kuwait (16–17 December). The IEC also participated in IRRS missions to the Russian Federation (11–18 November), the Czech Republic (17–29 November), Belgium (1–13 December) and an IRRS preparatory mission to the United States of America (7–8 November).

The IEC participated in expert missions and events related to EPR, notably: a pre-ConvEx-3 exercise expert mission to Rabat (Morocco, 1–4 October), the technical meeting of the Ibero-American Forum of the Radiological and Nuclear Regulatory Agencies (FORO) (Uruguay, 7–11 October), an expert mission to identify reference hospitals for radiation emergencies (Bolivia, 7–11 October), the ‘ONER-3-2013’ National Nuclear Emergency Management Exercise (Hungary, 7–9 October), the International Conference on the Sources, Effects and Risks of Ionizing Radiation (Indonesia, 10–11 October), the Committee on Radiation Protection and Public Health (CRPPH) Expert Group on Implication of Recommendations’ (EGIR) meeting (France, 14 October) and an expert mission to discuss the IAEA Low Enriched Uranium (LEU) Bank (Kazakhstan, 21–25 October).

Upcoming Activities

Information about upcoming activities for Member State Emergency Preparedness is available on the online calendar of events. Just click on ‘Meeting Calendar’ from the right side menu at ns.iaea.org.

The following peer review services are scheduled for 2014: EPREV preparatory missions to Tanzania (5–6 March) and Nigeria (16–17 July) and EPREV missions to

South Africa (2–12 February), Tajikistan (February), Tanzania (5–13 May), Nigeria (13–21 October) and Kuwait (third quarter 2014).

Recent Activities in Emergency Public Communications

From October through December, four workshops were held on Communication with the Public in a Nuclear or Radiological Emergency. Member States continue to show a keen interest in training on this topic. To meet the demand and provide a comprehensive suite of materials to training participants, the IEC maintains and expands an excellent roster of experts and develops new materials.

Currently, the toolkit for Public Information Officers contains the main publication *Communication with the Public in a Nuclear or Radiological Emergency* (EPR-Public Communications, 2012), the associated training materials, plain language materials and the INES User's Manual. The EPR-Public Communications publication has been translated into Arabic, Chinese, French and Spanish versions, with a Russian version coming soon.

In 2014, the IEC will be complementing this content with an e-learning tool covering the entire contents of the face-to-face workshops, which will be accessible on www.iaea.org and on CD. An attachment document to EPR-Public Communications will also be published in 2014 to provide a framework for Member States to draft a national radiation emergency communications plan. Mid-term plans include the development of additional guidance on the use of social media in radiation emergency preparedness and response.

Workshops on Communication with the Public in a Nuclear or Radiological Emergency in Q3-Q4 2013

- Inter-regional workshop in French, 23–27 September, hosted by Morocco in Rabat
- ANSN Regional workshop, 2–4 October, hosted by Indonesia in Jakarta
- Regional workshop for Europe, 28 October–1 November, hosted by Belgium in Brussels
- National workshop, 7–11 December, United Arab Emirates in Abu Dhabi
- Regional workshop in Spanish for Latin America, 9–13 December, hosted by Bolivia in La Paz



Workshop on Communication with the Public in a Nuclear or Radiological Emergency, Brussels, Belgium. (Photo Credit: L. Berthelot, IAEA-IEC)

Seventh Meeting of the Representatives of Competent Authorities Identified under the Early Notification and Assistance Conventions

The Seventh Meeting of Representatives of Competent Authorities identified under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency will be held at the IAEA Headquarters in Vienna, Austria, on 19–23 May 2014.

The meeting will focus on topics such as national and IAEA EPR arrangements, international exercises, Early Notification and Assistance Conventions matters, recent developments in nuclear safety and security and the way forward in the field of EPR.

More information about the Seventh Meeting of the Competent Authorities will be available soon on iaea.org (section 'IAEA meetings') and on the IAEA Unified System for Information Exchange in Incidents and Emergencies (USIE).

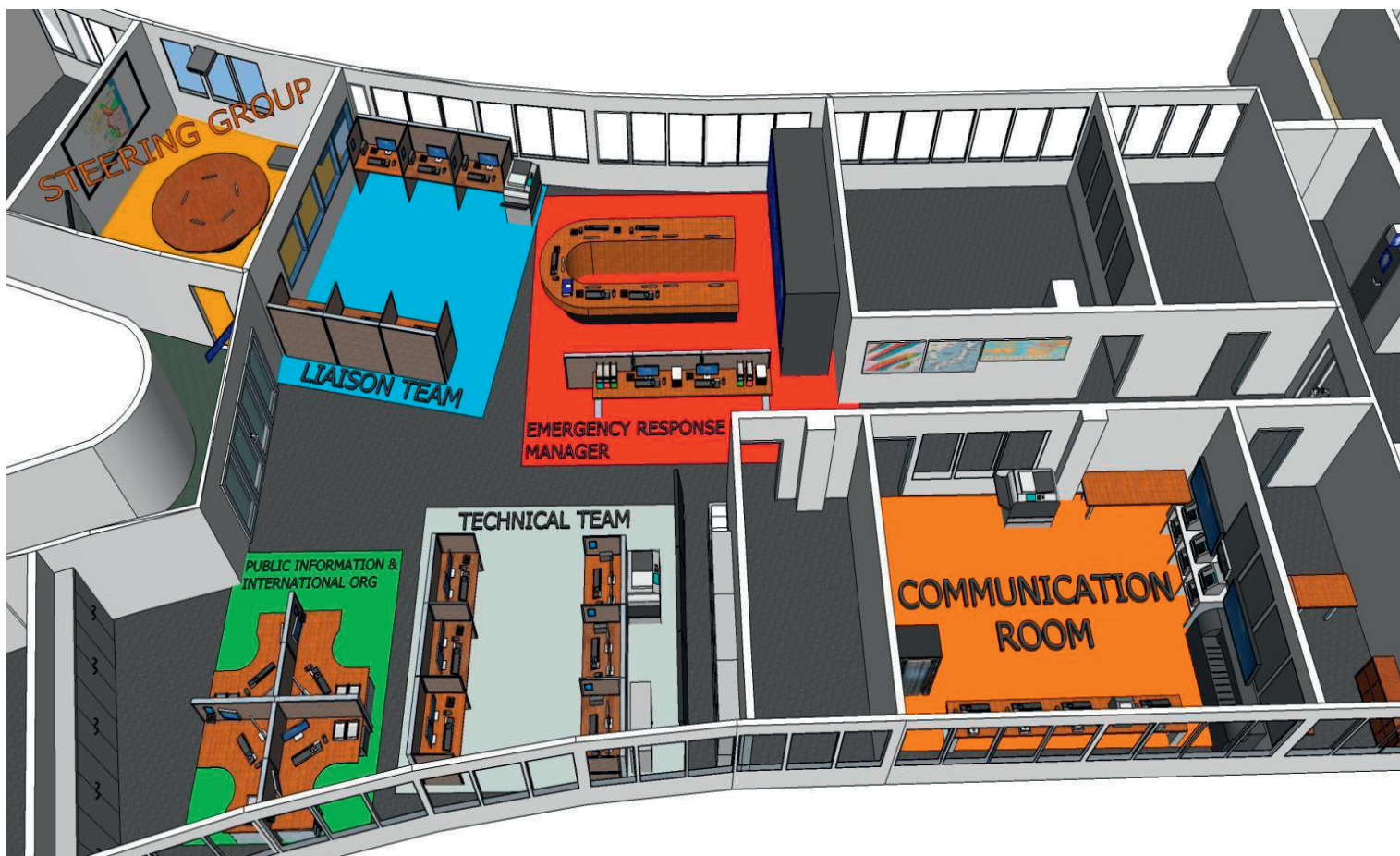
IEC News

The IEC welcomes Katerina Pepovska (Macedonia) as Team Assistant.

Welcome to the IEC

Ever wondered what the IEC operational room looks like? Located at the IAEA Headquarters in the Vienna International Centre, this restricted access operational area allows trained IAEA staff members to respond to nuclear and radiological incidents and emergencies.

On a daily basis, the IEC's operational area serves as a working space to monitor nuclear or radiological related events, train Incident and Emergency System staff, develop response tools and conduct response exercises and communication drills, amongst other activities. This area also regularly hosts official visits and special events.



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NOTE

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