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ConvEx-3 (2013) Evaluation Meeting

The ConvEx-3 (2013) evaluation meeting – the Fifth Meeting of the Inter-Agency Committee on Radiological and Nuclear Emergencies Working Group on Coordinated International Exercises (IACRNE-WG-CIE) – took place at IAEA Headquarters in Vienna from 11–12 February 2014. Representatives from the Moroccan authorities, members of the IACRNE Working Group on Coordinated International Exercises, exercise chief evaluators, and the chairperson of the National Competent Authority Coordination Group (NCACG) were invited and participated in the meeting.

The objectives of the meeting were to evaluate the ConvEx-3 (2013) exercise, to review the draft Exercise Report, and to discuss exercise findings and conclusions. On the first day of the meeting (11 February), the exercise was evaluated by the host country Morocco and by chief evaluators of some international organizations and Member States. National objectives, findings, conclusions and recommendations for emergency preparedness and response improvements were presented and discussed. On the second day (12 February), the Lead Exercise Evaluator and chair of the ICARNE WG-CIE, presented the draft Exercise Report, and proposals for common findings, conclusions and recommendations based on the Chief Evaluator’s reports were consolidated. It was also agreed that the revised draft Exercise Report will be distributed for comment and feedback to all chief evaluators who have submitted evaluation reports to the IAEA.



Participants of the ConvEx-3 (2013) Evaluation Meeting – the Fifth IACRNE WG-CIE Meeting, 12 February 2014. (Photo Credit: V. Kovtunov/IAEA-IEC)

The ConvEx-3 exercise was conducted by the Incident and Emergency Centre (IEC) on 20–21 November 2013. Fifty-nine Member States (including Morocco) and ten international organizations (including the IAEA) participated in the exercise.

New Features on USIE

In January 2014, the IEC released an updated version of the Unified System for Information Exchange in Incidents and Emergencies (USIE) website, including several enhancements. Many of the improvements were designed to address the IEC's back-end management of routine information contained in USIE. However, some new features are also directly relevant to all users. The USIE contact lists (for emergency Contact Points and INES National Officers) are automatically generated and can now be downloaded as PDF files that contain the most recent contact information and are consistent with the information shown on the website. Another significant enhancement is that any problems in reaching Contact Points through their primary or routine numbers during ConvEx exercises are now recorded by the IEC in the USIE Address Book. Administrators are automatically notified by email of any problems related to their organization's communication channels. The organizations that have been added as favourites in the affected Contact Point's USIE Address Book will also be notified. These enhancements are intended to contribute to the further improvement of the IEC's communications with Contact Points in future exercises and events.

In April 2014, the IEC will release another significant enhancement to USIE: the **USIE Connect** feature. USIE Connect enables Contact Points to interface their own emergency information systems with USIE in order to streamline and automate the exchange of information

with the IEC during an emergency. This feature has been implemented based on the latest IRIX v1.0 standard, which was issued by the IEC in March 2013. The IEC is continuously collaborating with counterparts from the European Commission (EC), who implement a corresponding feature in the European notification system called WebECURIE. The IEC and the EC collaborate on testing and operation of the interaction of USIE and WebECURIE to further streamline international emergency information exchange for common Contact Points.

The IEC encourages all Contact Points to make use of the USIE Exercise and USIE Training websites during their activities to practice emergency communications with the IEC. We also encourage all Contact Points to make sure that an adequate number of relevant staff has been granted access to USIE. Contact Points should also consider granting access to staff from other national counterpart institutions (e.g. technical support organizations, other authorities), as appropriate, to implement the arrangements described in the Operations Manual for Incident and Emergency Communication (EPR-IEComm, 2012). Finally, the IEC wishes to remind USIE users of the need to change their USIE/Nucleus password every 12 months (minimum) in order to avoid being prompted by the system to do so during an emergency. This can be done at <http://nucleus.iaea.org>. For questions related to USIE, please contact the IEC at USIE.Contact-Point@iaea.org.

What is @IAEAIEC?

Since 2012, it has been possible to follow the IEC on Twitter at @IAEAIEC. Twitter is an online social media tool that allows users to follow certain accounts based on their interests. Being present on Twitter is a way for the IEC to communicate about its ongoing and upcoming activities, notably local, regional and interregional training courses and workshops, IAEA peer reviews and appraisal missions, exercises and drills within the Centre, new publications and translations, messages from relevant organizations through 're-tweeting', such as IAEA EPR-related articles, and other special activities. The IEC 'live-tweeted' from the IAEA 57th General Conference and 'tweets' during response exercises.

The IEC now has over 450 Twitter followers. Twitter is part of the IEC's outreach strategy for providing information to the general public, Member States and international organizations. Tweets are currently written in several UN languages (English, French, Spanish and Russian). Pictures, links and videos about the IEC and emergency preparedness and response (EPR) are shared via this communication channel.

Thank you to all our followers for your interest in the IEC's activities. We encourage our counterparts to follow the IEC on Twitter and keep up with the Centre's latest news on [@IAEAIEC](https://twitter.com/IAEAIEC).



Please note that this channel is not staffed 24/7 and shall not be used for emergency communications with the IAEA-IEC.

IEC Response to Recent Events

United Kingdom – Detection of radioactivity

On 31 January 2014, media articles reported a situation at the nuclear facility in Sellafield, United Kingdom. The IEC received requests for information from a few counterparts, and contacted its counterpart in the United Kingdom. The information received was that a small increase in radioactivity in parts of the Sellafield nuclear site were detected and determined to be caused by radon. According to the counterpart, there was no risk for the public or workers.

Poland – Radioactive source containing ^{60}Co lost or stolen

Information was received by the IEC on 16 January 2014 about a missing category 4 radiation source from a manufacturing plant in Poland. The ^{60}Co , 0.5 GBq source was part of an industrial gauge meter and went missing in its 45 kg PS-5B shielding container. One counterpart requested additional information about this event, but no additional information was available. The event was communicated on both the USIE/NEWS and the ECU-RIE systems. The health risk associated with the handling of the missing source was described by the Polish counterpart in line with the indications given in the IAEA Safety Guide RS-G-1.9.

Peru – Exposure to workers

Event Rating Forms were received on USIE/NEWS in

March 2014 regarding industrial radiography events which occurred in Peru in 2013 and in 2014. Although the exposures in the 2013 event exceeded regulatory limits, they were not of radiological significance. However, exposures to the 1.22 GBq, ^{192}Ir source in the 14 February event at Ventanilla, Callao, Peru, were significant and had resulted in deterministic effects to the skin for one of the workers involved. The Peruvian regulatory body investigated the case and stopped operations of the licensee until the event's causes were determined. The IEC followed this case with the counterpart in Peru.

IEC actions in case of major earthquake

Through the 'ShakeCast' website, the IEC receives information about the occurrence of major earthquakes throughout the world. Offers of IAEA good offices for the mitigation of consequences are provided for earthquakes of magnitude 6.5 and above, if these events affect nuclear facilities, radiological installations or dangerous radioactive sources. In the first quarter of 2014, four significant earthquakes were recorded. Offers of good offices were made to China for the magnitude 6.8 earthquake that occurred on 12 February 2014 at 09:19 hrs UTC in the Xinjiang area (China), and to Chile for the magnitude 7 earthquake that occurred on 16 March 2014 at 16:33 hrs UTC offshore of Tarapaca, Chile. The IEC very much appreciates the provision of any relevant information from counterparts and confirmation upon receipt of an IAEA offer of good offices.

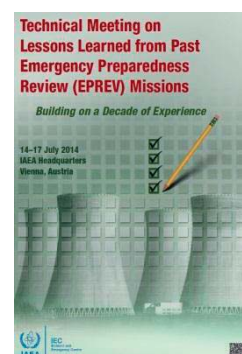
Sustaining Efforts to Improve EPREV in 2014

During the first quarter of 2014, the IEC implemented two full scope EPREV missions and one preparatory EPREV mission. During the two missions, improvements were made that encompass the experience gained during previous EPREV missions and suggestions from EPREV consultancies and training events (i.e. use of a new report template, new guidelines for reviewers and a new drafting methodology allowing more time for interviews and discussions with the host country's counterparts).

In keeping with sustained efforts to further improve EPREV missions and methodology, a consultancy meeting on the improvement of guidelines and general criteria for the implementation of effective and efficient EPREV missions will be held in Vienna in June. The objective of

this event is to further improve the structure, requirements and guidelines of EPREV missions.

A technical meeting on 'Lessons Learned from Past Emergency Preparedness Review (EPREV) Missions' will be held at IAEA Headquarters from 14–17 July 2014. This meeting will examine the lessons learned from the past ten years of implementing EPREV missions worldwide, in order to strengthen the EPREV service. Registration for the Technical Meeting is open until 16 May 2014. More information about the Technical Meeting on EPREV can be found at iaea.org on the 'Meetings' page.



International Exercise @tomic 2014 a Success

The international tabletop exercise @tomic 2014 took place in Maastricht, Netherlands, from 18–20 February and was attended by over 250 government experts from 50 countries. This event focused on enhancing international coordination arrangements for managing an international nuclear security event, emergencies resulting from a nuclear security event, and the collateral crisis response. @tomic 2014 sought to promote cooperation between countries and expert communities to achieve common global threat assessment, shared situation awareness and harmonized crisis response. The scenario spanned a period of several months, combining chronic and acute threats in several countries with international impact. The exercise was structured to emphasize the need for international cooperation and coordination, without which a full picture of the threat and of the required response would not be possible.

The exercise's aims were to enhance knowledge and awareness in nuclear security for nuclear or radiological threats, incidents and emergencies, the roles of international organizations concerned with nuclear security, forensic methods (traditional, radiological and nuclear) and the integration of the various communities involved in the management of nuclear security events and of potential emergencies resulting therefrom. It demonstrated the practice of nuclear security information exchange between countries and international organizations, the practice of nuclear security crisis management, the importance of communicating the characteristics and challenges with the proliferation of nuclear material and radiological sources and the potential harm connected to the misuse of these materials. The IAEA, through the Division of Nuclear Security (NSNS) and the IEC, was one of the partnering organizations that supported the development of the exercise scenario, specifically in the areas of terrorist uses of nuclear or radiological materials, cybersecurity, and the conduct of the exercise. This support included hosting a scenario development meeting at the IAEA. NSNS and the IEC also contributed experts during the exercise to lead the Subject Matter Expert groups on Nuclear and Other Radioactive Material, on Emergency Management and on Public Communications. These

groups provided advice to the national participants to assess emergent nuclear security threats, formulate an emergency response strategy and address the sensitive needs related to keeping the public informed.

These goals were achieved by simultaneously integrating simulated public news networks, the involvement of experts in nuclear security, cyber security, law enforcement, forensics, emergency management, USIE, and the IAEA nuclear security communication network. USIE provided a real-time platform for the secure exchange of information between participating countries and for the consolidation of global situational awareness. The exercise was run with time pressures from seemingly random events that drove nuclear security assessments and reactions. The participating countries performed well when they exchanged information openly because this was the best way to obtain global situational awareness. Such exchanges can build on tools available to IAEA Member States, such as restricted databases and details of relevant points of contact.



Several participants during the @tomic 2014 exercise. 19 February 2014. (Photo Credit: NCTV)

@tomic 2014 was organized by the Dutch National Coordinator for Security and Counterterrorism (NCTV), together with the IAEA Department of Nuclear Safety and Security, INTERPOL, the EC, the United Nations Interregional Crime and Justice Research Institute, Euro-pol, the European Union Centres of Excellence on Chemical, Biological, Radiological and Nuclear Risk Mitigation, the Dutch Ministry of Foreign Affairs, the Dutch Ministry of Economic Affairs and the Netherlands Forensic Institute.

EPREG VTC Discussion

An ad-hoc video-teleconference (VTC) meeting of the IAEA Emergency Preparedness and Response Expert Group (EPREG) members took place on 12 March 2014 to discuss current IEC activities and progress made in preparing and organizing the International Conference on Global Emergency Preparedness and Response that will be held at IAEA Headquarters in Vienna, from 19–23 October 2015. The EPREG discussed and consolidated proposed conference topics and agreed to be part of the International Conference Programme Committee (ICPC).

In addition, EPREG members reviewed and provided feedback to draft agendas for the Meeting of the Representatives of Competent Authorities (CAM 2014) that will be held in Vienna from 19–23 May, the first ICPC meeting and the third regular EPREG Meeting that will be held during the week following the CAM 2014. The VTC discussion concluded with a debate on nuclear safety and nuclear security interfaces, and the need for integration during emergency response. An EPREG paper on this subject will be presented at the Competent Authorities Meeting in May.

Member State Preparedness

To assist Member States with applying IAEA guidance in the area of EPR, six training events were conducted during the first quarter of 2014 at the interregional, regional, subregional and national levels:

Interregional level:

- Training Session on ISP/Hotspot (for the National Atmospheric Release Advisory Center) (Austria, Vienna, 3–7 March);
- Training course on First Response to Radiological Emergencies (Austria, Vienna, 17–21 March).

Regional and subregional levels:

- Training Course on Public Communications during Nuclear or Radiological Emergency (Viet Nam, Hanoi, 17–21 February).

National level:

- Workshop for the Iran Nuclear Regulatory Agency INRA Severe Accident Management and Emergency Preparedness and Response to Severe Accidents at VVER Nuclear Power Plants (Islamic Republic of Iran, Tehran, 25–29 January);
- Training Programme for Medical Response to a Radiation Emergency (for Afghanistan) (Austria, Vienna, 3–7 February);
- Workshop/Training Programme for Medical Response to a Radiation Emergency (Pakistan, Islamabad, 10–14 March).



Participants of the Training Course on First Responders to Radiological Emergencies practicing surveying a high activity source. 20 March 2014. (Photo Credit: M.Breitinger/IAEA-IEC)

In addition, the IEC implemented Emergency Preparedness Review (EPREV) Missions in South Africa (2–12 February) and Tajikistan (17–28 February), and a preparatory EPREV mission in the United Republic of Tanzania (5–6 March). In addition, the IEC participated in an Integrated Regulatory Review Service (IRRS) mission to the United States of America (2–11 February).

The IEC participated in expert missions and events related to EPR, including: training in use of an Early Warning System (Lebanon, 6–19 January), an expert mission to participate in the Joint Meeting on Nuclear/Radiological Security for Major Public Events (United States of America, 29 January–1 February), an expert mission to assist Viet Nam to fill gaps in EPR identified by an EPREV mission that focused on the review of the national radiological and nuclear emergency response plan (Viet Nam, 3–7 March), the First Coordination Meeting for the Project on Strengthening National Capabilities for Response to Radiation Emergencies (Mexico, 3–7 March), an expert mission to observe and evaluate a National Field Radiological Response Exercise (Kuwait, 19–20 March) and an expert mission to review and evaluate the National Radiological and Nuclear Emergency Preparedness and Response (Bahrain, 23–27 March).

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.

Beyond the first quarter of 2014, the following peer review services are scheduled: EPREV missions to Kuwait, Tanzania and Nigeria and an EPREV preparatory mission to the United Arab Emirates, an IRRS mission to Jordan, as well as IRRS preparatory missions to Cameroon, France, India, the Netherlands, Slovenia, South Korea, Viet Nam and Zimbabwe.

IEC Participates in PIME Communication Showcase

The IEC attended the Public Information Materials Exchange (PIME) Conference, which is the annual meeting for communications professionals in the nuclear sector. The conference was organized by the European Nuclear Society in collaboration with the IAEA, the Organisation for Economic Co-operation and Development/Nuclear Energy Agency, and the European Atomic Forum. PIME 2014 was hosted by the Slovenian Nuclear Society and took place from 16–19 February in Ljubljana, Slovenia, at the Grand Hotel Union. It was attended by approximately 130 participants from more than 25 countries. During plenary sessions and interactive workshops, the participants discussed topics related to communications challenges such as social media, the level of public understanding of nuclear science, engineering and technology, and storytelling.

The IEC participated in the Communication Showcase, which was an opportunity for PIME attendees to present and share their activities and experiences. The IEC showed a presentation on communication in a nuclear or radiological emergency. It included an overview of the IEC, its mission and activities, the communication channels employed by the IAEA and the IEC in an emergency, and a segment on INES as a communications tool. The Showcase was well attended and materials were widely distributed to PIME participants, notably the IEC's recent publications related to communications.

Nordic Countries have agreed upon Joint Protection Guidelines for Nuclear and Radiological Emergencies

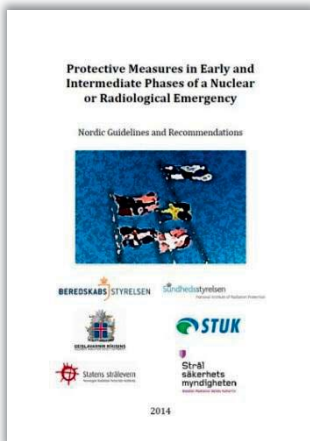
The article was drafted in cooperation between Hannele Aaltonen (STUK), Kresten Breddam (SIS), Lynn Hubbard (SSM), Sigurður Magnús Magnússon (GR) and Eldri Naadland Holo (NRPA).

The Nordic radiation and nuclear safety authorities published, in the beginning of March 2014, joint, generic guidelines for protective actions concerning the public and functions of society in case of nuclear or radiological emergencies. As severe nuclear or radiological emergencies may have direct or indirect impacts on many countries, joint criteria allow consistent protective actions and advice to the public in such situations.

The guidelines are agreed too by radiation protection and nuclear safety authorities in Denmark, Finland, Iceland, Norway and Sweden. The Nordic guidelines are based on the Finnish guides for nuclear and radiological emergencies and further developed through close Nordic cooperation.

The guidelines form a unique document that includes criteria for early protective actions, as well as for actions after contamination. The document also contains criteria

for lifting measures. They take into account both domestic emergencies and emergencies in more distant locations, and they cover both accidents and intentional acts. The guidelines also form a practical implementation of the new international radiation protection concept established for emergencies (ICRP 103).



The goal of the guidelines is to have a practical document that can be easily used during emergencies. In addition to dose criteria for each action presented in the document, it contains predefined operational criteria such as triggers, i.e. observables that are expected to be promptly available, as well as operational intervention levels (OILs). The triggers and OILs are generally in line with those published by the IAEA, but in the Nordic document a more extensive coverage of OILs for different circumstances is presented, especially for the intermediate phase. Because of the more detailed nature of the new guidelines, the practical implementation of them will greatly assist Nordic radiation protection and nuclear safety authorities to evaluate the radiation safety significance of an emergency and the measu-

res needed which will result in a more timely protective system.

The protective actions may include sheltering indoors, iodine prophylaxis, evacuation, protection of food production and commodities, decontamination of inhabited areas, and management of contaminated waste resulting from an emergency. In the following figures, actions to be considered during urgent, early and intermediate phases of an emergency are summarized.

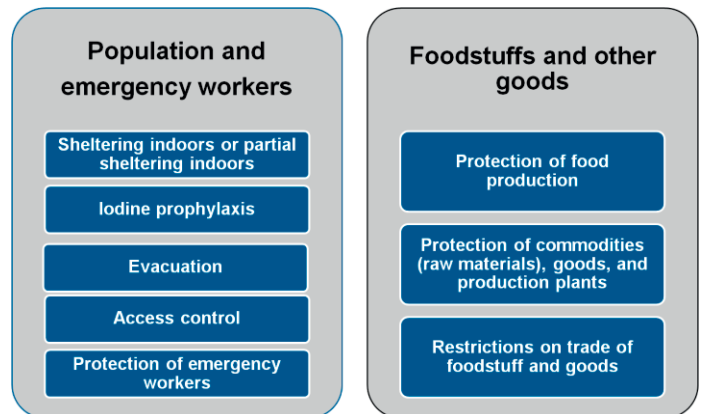


FIG. 1. Actions during an urgent/early phase of an emergency.

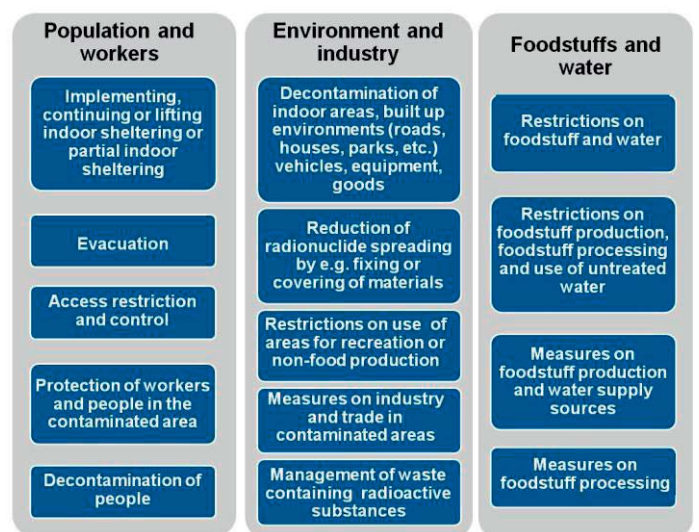


FIG. 2. Actions during an intermediate phase of an emergency.

The document is available in English on websites of the Nordic radiation and nuclear safety authorities: www.stuk.fi; www.ssm.se; www.nrpa.no; www.sis.dk and www.gr.is.

First Full Response Mode Exercise of 2014

The IEC conducted its first Full Response Exercise of 2014 on 26 February. The purpose of IEC's Full Response Exercises is to evaluate the IAEA's internal procedures and processes, such as information flow, accident assessment and prognosis, and press release protocol. These internal procedures and processes were tested during the exercise to ensure that the IAEA is able to fulfil its response roles for a nuclear or radiological incident or emergency.

The exercise helped to identify where additional training and guidance for the participants of the IAEA's Incident and Emergency System (IES) is needed. Thirty six IAEA staff members from seventeen different divisions of the IAEA Secretariat were involved in this four hour exercise. IEC staff participated as controllers and evaluators and staffed the simulation cell, which played the role of outside agencies and Member States.

Member States are encouraged to inform the IEC at an early stage in the preparation of their national exercises,

especially when they plan to test reporting arrangements on the USIE Exercise site. The IEC works directly with Members States to agree on the scope of the IEC's involvement in a national exercise (e.g. from basic posting of messages on the USIE Exercise site, to a simulated activation of the IEC to full response mode, as was the case in this exercise). For further information, please email IEC3@iaea.org.



Members of the IEC's technical team discuss the situation at the power plant, 26 February 2014. (Photo Credit: T. Ozawa/IAEA-IEC)

Conclusions of the IEM7 on Severe Accident Management and Response

From 17–20 March 2014, the IAEA held its seventh International Experts Meeting (IEM) within the framework of the Nuclear Safety Action Plan. The IEM7 focused on 'Severe Accident Management in the Light of the Accident at the Fukushima Daiichi Nuclear Power Plant'. Organized by the Division of Nuclear Installation in collaboration with the IEC, the IEM concluded that much has been achieved in preparedness for the man-

agement of severe nuclear accidents, but that there are still opportunities for continuous improvements in that field. Chairman Mohammad Anwar Habib (Pakistan Nuclear Regulatory Agency) highlighted the need for better regulation, enhanced training in realistic conditions, resilient and versatile emergency response organizations and continued improvements in the coordination of severe accident management strategies and emergency preparedness and response. The meeting participants also emphasized the importance of a transition from rule-based to knowledge-based management in the case of severe accidents, and the need for emergency arrangements to take into account the possible significant disruption of a site following extreme natural events. More than 160 participants attended the IEM7 from the industry, the government, regulatory bodies, and emergency management organizations.



Participants of the IEM7 in the meeting room. 17 March 2014. Photo Credit: W. Gruenwald/IAEA-IEC

IEC News

The IEC welcomes Svetlana Nestoroska Madjunarova (Macedonia) as Emergency Preparedness Officer, Jane Hind (South Africa) and Tomonori Ozawa (Japan) as consultants, and Craig Jantzen (United Kingdom) and Rajinder Virdee (United Kingdom) as interns.

New Publications Translations

IEComm in all UN languages

The *Operations Manual for Incident and Emergency Communication* (IEComm) is now available in all six official UN languages. The Manual is designed to facilitate the practical implementation of the Convention on Early Notification of a Nuclear Accident (Early Notification) and the Convention on Assistance in the Case of a Nuclear or Radiological Emergency (Assistance Convention). IEComm, 2012, describes the arrangements regarding notification and reporting, the development of preparedness, the exchange of information and the timely provision of assistance among the IAEA Secretariat, its Member States, Parties to the Early Notification and Assistance Conventions, relevant international organizations and other States in events with actual, potential or perceived radiological consequences that necessitate response actions or that raise media interest. IEC counterparts are encouraged to acquire the Manual and to develop

their operational arrangements in line with the ones described in IEComm.



The new publications translations are available at iec.iaea.org. Click on 'Technical Tools' on the right hand menu.

IEComm, 2012, can be found [here](#) by clicking on 'Technical Areas', 'Incidents and Emergencies' and 'International Response System' on the website's left hand menu.

New Translations

The publication *Cytogenetic Dosimetry: Applications in Preparedness for and Response to Radiation Emergencies*, jointly sponsored by the IAEA, the Panamerican Health Organization and the World Health Organization, is now available in Arabic and Russian. *EPR-Biodosimetry, 2011*, 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. In addition, the publication *Lessons Learned from the Response to Radiation Emergencies (1945-2010)* is now available in French. *EPR-Lessons Learned, 2012*, offers a review of the lessons from response to both nuclear and radiological emergencies and other emergency situations that took place between 1945 and 2010. The publication *Communication with the Public in a Nuclear or Radiological Emergency* (EPR-Public Communications, 2012) is now available in Arabic. The publication's objective is to provide practical guidance to those responsible for keeping the public and media informed, and for coordinating all sources of official information to ensure a consistent message is being provided to the public before, during and after a radiation emergency.



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NOTE

This Newsletter is distributed by the Incident and Emergency Centre of the IAEA. The information provided does not necessarily reflect the opinions of governments of States that are Member States of the IAEA and/or Parties to either or both of the Conventions on Early Notification and Assistance, or of the governments of other States, or of relevant international intergovernmental organizations. Although great care has been taken to maintain the accuracy of information contained in this newsletter, neither the IAEA Secretariat nor its Member States assume any responsibility for consequences that may arise from its use.