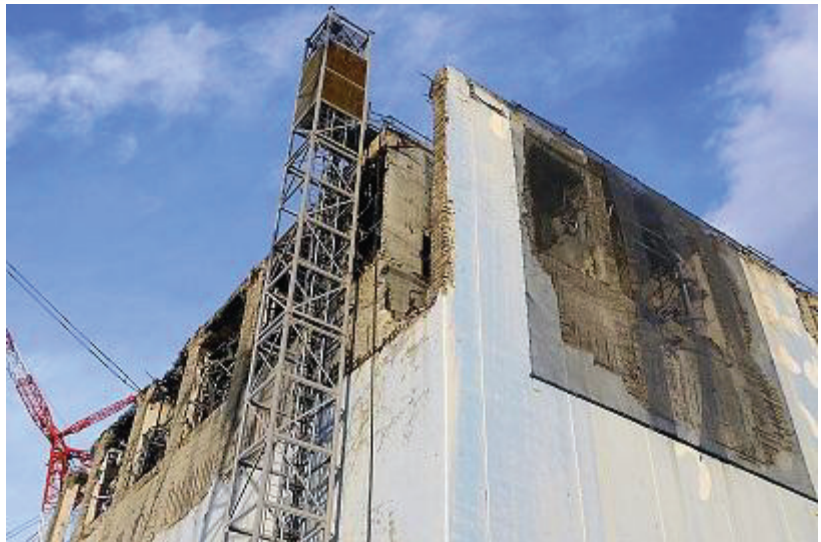




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Unit 4 of Fukushima Daiichi Nuclear Power Plant. The remains of the building's upper levels, which were destroyed by a hydrogen explosion, have been removed to allow for construction of a cover, so that fuel stored in the Unit's spent fuel pool can be moved to a common pool (Photo Credit: G. Tudor/IAEA).

Fukushima Ministerial Conference on Nuclear Safety

The Fukushima Ministerial Conference on Nuclear Safety, organized by Japan in co-sponsorship with the IAEA, was held from 15 to 17 December 2012 in the Fukushima Prefecture, Japan. This Conference provided yet another opportunity to share with the international community, at the ministerial and expert levels, further knowledge and lessons learned from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station (the Fukushima Daiichi accident) and to further enhance transparency. Some 114 countries and 11 international organizations attended the conference.

Participants discussed the progress of international efforts aimed at strengthening nuclear safety, including through the implementation of the IAEA Nuclear Safety Action Plan, as well as measures to protect people and the environment from ionizing radiation.

In his closing remarks, Denis Flory, the IAEA's Deputy Director General in charge of Nuclear Safety and Security, observed that: "The Conference has provided a good occasion to reconfirm commitments to nuclear safety," noting that it had also provided a chance to grasp first-hand the "unbelievably complex and harsh conditions" in which workers at the plant had to react to the accident and the complexity of the ongoing work there.

The Conference concluded with the presentation of Chairperson Summaries from the three expert Working Sessions.

During the Conference IAEA Director General, Yukiya Amano, and the Governor of Fukushima Prefecture, Yuhei Sato, signed a Memorandum of Cooperation confirming their willingness to implement concrete projects to help alleviate the consequences of the accident at TEPCO's Fukushima Daiichi Nuclear Power Station. The Memorandum includes arrangements to promote cooperation in two key areas, namely: (i) radiation monitoring and remediation between the IAEA and Fukushima Prefecture, and (ii) human health between the IAEA and Fukushima Medical University. The Memorandum also highlights plans for a training centre in Fukushima Prefecture to help reinforce emergency preparedness and response activities,

supported by the Government of Japan and Fukushima Prefecture. An IAEA Response and Assistance Network (RANET) Capacity Building Centre will be designated, with IAEA radiation monitoring equipment to be deployed in case of need, and where the IAEA will provide training in emergency preparedness and response in Japan and the Asia Pacific region.

<http://www.iaea.org/newscenter/news/2012/fukushconference.html>

<http://www.iaea.org/newscenter/pressreleases/2012/prn201234.html>

Expansion of IAEA RANET Membership and Capabilities in 2012

The IAEA Response and Assistance Network (RANET) grew in the course of 2012, with new members registering their National Assistance Capabilities (NACs) and existing members adding new capabilities to their registrations. The United Kingdom, Canada and Norway became new members after registering their NACs. Both Australia and the United States of America added new NACs to their registrations. In addition, the Czech Republic, Egypt and Turkey updated their registrations to reflect the 'IAEA Response and Assistance Network' (EPR-RANET, 2010) publication.

The Incident and Emergency Centre (IEC) hopes this trend will continue in 2013. In 2013, the release of the updated version of the ERP-RANET publication, including the new Functional Area of Nuclear Installation Assessment and Advice will take place. The IEC is also aware of other Member States who are actively seeking to join RANET or increasing their existing registrations.

All Parties to the *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* are encouraged to meet their obligation under the convention by identifying their NAC and registering them to RANET.

IEC Full Response Mode Exercise

Thirty-two staff members from six different departments throughout the IAEA participated in the IEC's Full Response Mode exercise on 21 November. IAEA Director General, Yukiya Amano, and Deputy Director General, Head of the Department of Nuclear Safety and Security, Denis Flory, also played in the exercise. The exercise scenario was a radiological emergency arising from the explosion of a Radiological Dispersion Device.



Director General Yukiya Amano and Deputy Director Denis Flory being briefed by Elena Buglova, Head of the IEC during the Full Response Mode exercise (Photo Credit: D. Calma/IAEA).

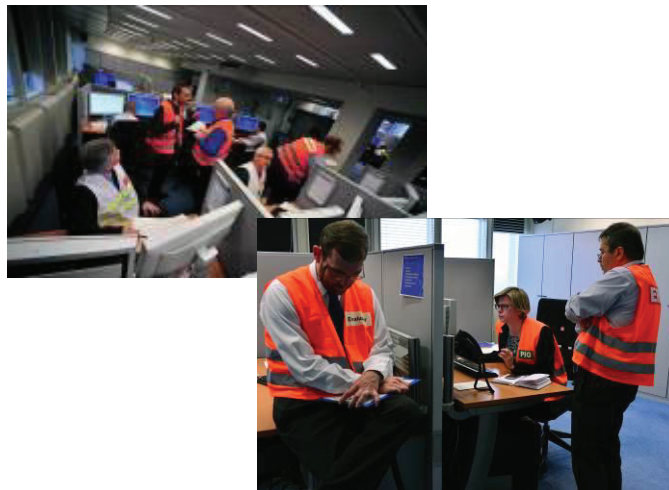
The IEC simulated activating into Full Response Mode from 09:00 to 13:00, which included a shift change. The participation of international organizations and Member States in the exercise was carried out via information injections using phone calls, faxes, emails, news media and messages sent using the Unified System for Information Exchange in Incidents and Emergencies (USIE).

A further objective of the exercise was to test members of the IAEA's technical team in their application of the specific assessment tools. During the exercise, members of the team were required to use two plume modelling codes called Hotspot and the International Exchange Program (IXP). Both of these programs are managed by the National Atmospheric Release Advisory Center (NARAC) of Lawrence Livermore National Laboratory of the United States of America. The programs enabled the technical team to assess the radiological impact of the simulated emergency.

After the exercise, a lessons learned de-briefing was held, where exercise participants provided their feedback on

the response. This was an opportunity to identify potential improvements to plans and procedures.

This was the third Full Response Mode exercise conducted by the IEC in 2012.



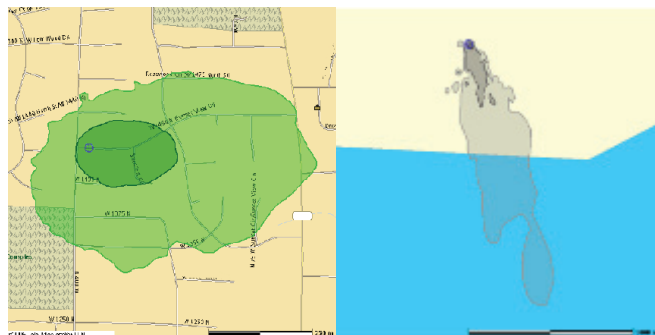
Scenes from the Full Response Mode Exercise held on 21 November 2012 in the IEC (Photo Credit: D. Calma/IAEA).

IEC Organizes IXP and Hotspot Training

On 12 to 13 November 2012, the IEC arranged for experts of NARAC, Lawrence Livermore National Laboratory of the United States of America, to provide training on the use of the IXP and Hotspot plume modelling codes at the IAEA headquarters in Vienna.

Twenty IAEA staff members attended the training course. These newly trained staff members will be added to the roster of experts who may be called on to form the technical team if the IAEA needs to respond to a nuclear or radiological emergency. The training course was also attended by staff members of the Comprehensive Test Ban Treaty Organization.

Both IXP and Hotspot can be used for the modelling of plume dispersions based on user defined release criteria. Hotspot uses straightforward modelling techniques limited to a single wind direction and basic weather input, whereas IXP allows for the simulation of dispersions in complex weather configurations using historical, live or predicted weather data that can vary.



Example of IXP output of dispersion modelling using live weather data.

Registration is required on both the IXP and Hotspot web sites for access to these tools. Access requires permission to be obtained from the Member States' National Competent Authority.

IXP is available online from: <https://ixp.llnl.gov> and Hotspot is available from: <https://narac.llnl.gov/HotSpot/HotSpot.html>.

Technical Meeting on the Draft Safety Requirements in Emergency Preparedness and Response

A Technical Meeting on review of the draft safety requirements in emergency preparedness and response took place in Vienna, Austria from 12 to 16 November 2012. One hundred and two (102) representatives from 63 Member States and 5 international organizations attended the meeting. E. Buglova, Head of the IEC was the Scientific Secretary and G. Linsley, United Kingdom, chaired the meeting.

The objective of the meeting was to inform representatives of Member States and the relevant international organizations on the revision of the IAEA Safety Requirements publication, Preparedness and Response for a Nuclear or Radiological Emergency, Safety Standards Series No. GS-R-2, as well as to review and discuss the major revisions undertaken so far. Participants acknowledged the progress that had been made and supported the revision process by reviewing the draft in detail and providing feedback. The feedback was noted for further consideration in the revision process.

During the meeting, presentations were given on the following subjects:

- The basis for the development and an overview of the current IAEA Safety Requirements publication, No. GS-R-2;
- The needs and objectives, as well as the principles that guided the revision process of the version that will supersede publication No. GS-R-2;

- An overview of the revision process, including detailed reports of the activities undertaken and the activities planned by the IAEA until the draft's publication;
- An overview of the draft and the major revisions identified;
- The concept of operations for two hazard categories.

After each presentation, a discussion took place that gave participants the opportunity to consider the subjects presented in greater detail. A special session of the meeting was devoted to the experience gained and the lessons identified in the response to the accident at TEPCO's Fukushima Daiichi nuclear power plant and the ongoing review of the IAEA safety standards in light of these lessons.

Participants were also briefed on the new criteria for use in preparedness and response for a nuclear or radiological emergency and on the current and upcoming IAEA emergency preparedness and response publications. Participants also offered their support for the new safety guides in emergency preparedness and response that had been suggested.

In the meeting, Member States and international organizations were encouraged to contribute further to the revision process.

Member State Preparedness

In assisting Member States in applying IAEA guidance in the area of emergency preparedness and response, eight training events were conducted during the fourth quarter of 2012 at the interregional, regional, subregional and national levels:

Interregional level:

- Training Course on First Response to Radiation Emergencies: Procedures for Ports and Customs Offices (United States of America, Las Vegas, 22–26 October);
- Technical Meeting for Review of the Draft Safety Requirements in Emergency Preparedness and Response (Austria, Vienna, 12–16 November);
- Workshop on Notification, Reporting and Requesting Assistance (Singapore, Singapore, 4–6 December);
- Workshop to Train the Trainers in Communication with the Public in a Nuclear or Radiological Emergency (Austria, Vienna, 10–14 December).



Participants in the Workshop to Train the Trainers in Communication with the Public in a Nuclear or Radiological Emergency (Austria, Vienna, 10–14 December) (Photo Credit: J. Lehtinen).

Regional and subregional levels:

- Asian Nuclear Safety Network (ANSN) Workshop on Communication and Consultation with Interested Parties and First Annual Meeting of the Topical Group on Communication (CTG) (Republic of Korea, Daejeon, 5–9 November);
- Regional Training Course on Implementing the IAEA's Unified System for Information Exchange in Incidents and Emergencies (USIE) (Austria, Vienna, 27–29 November);
- Workshop on Notification, Reporting and Requesting Assistance (Kuwait, Kuwait City, 10–13 December).

National level:

- Training on the Use of the International Nuclear and Radiological Event Scale (INES) (Switzerland, Brugg, 15–16 October).

During the fourth quarter of 2012, the IEC conducted Emergency Preparedness and Review Services (EPREV) missions to Lithuania, 1–11 October, Armenia, 15–25 October and Uruguay, 5–14 November.

The IEC participated in a preparatory Integrated Regulatory Review Service (IRRS) mission to Poland, 4–5 October, and an IRRS mission to Finland, 14–26 October.

The IEC also participated in a Basic Safety Standards Regional Workshop held in Ukraine, 16–19 October.

Upcoming Activities

The following events are planned to be conducted over the next six months:

- National Training Course on First Response to Radiological Emergencies (Austria, Vienna, 21–25 January);
- Interregional Workshop on Protective Actions for Severe Reactor Accidents (Austria, Vienna, 11–15 February);
- Regional Workshop on Capacity Building Towards the Use of Guidelines for the Development of Required Infrastructure for Radiation Emergencies and Preparedness in the Gulf Cooperation Council (Kuwait, Kuwait City, 10–14 March);
- Interregional Training Course to Train the Trainers on First Response to Radiological Emergencies (Austria, Vienna, 11–15 March);
- Interregional Training Course on Medical Response to Radiation Emergencies (Austria, Vienna, 18–22 March);
- Interregional Workshop on Notification, Reporting and Requesting Assistance (Norway, Oslo, 21–23 May).

An EPREV mission is planned to be conducted in Jordan. The IEC will also participate in IRRS missions to Poland and Bulgaria and preparatory IRRS missions to Pakistan and the UK.

In addition, the IEC will participate in the regional coordination meeting to strengthen capabilities for responding to radiation emergencies in the Latin America region (project RLA/9/074) in Mexico, 25 February–1 March.

International Training Course on First Response to Radiation Emergencies for Port and Customs Offices

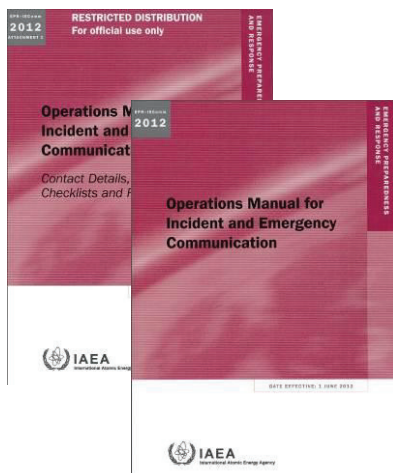
The IEC, in cooperation with the National Nuclear Security Administration (NNSA) of the Department of Energy of the United States of America, held an international training event titled Training Course on First Response to Radiation Emergencies: Procedures for Port and Customs Offices. The course was held on 22 to 26 October 2012 in Las Vegas, Nevada, U.S.A. The course was attended by 21 participants from 14 Member States.

The purpose of the training course was to provide participants with a theoretical and practical introduction to the state-of-the-art techniques and methodologies for first response to radiation emergencies after detecting the transport of radioactive material through national borders, ports and customs offices. The presentations and discussions were held in the building of the Atomic Testing Museum, Las Vegas, whereas the

practical training of the course took place in the experimental area of the NNSA within the Nevada Nuclear Security Site.

In addition to the introductory presentations on radiation basics and radiation protection, participants received training on topics such as: radiological and nuclear hazards, port and customs emergency response planning, radiation identification, radiation source recovery, international response criteria, assessment of national capabilities through the EPREV service offered by the IAEA and public communication in a radiation emergency. The course focused on improving first responders' (especially customs and border patrol officers) preparedness for response to nuclear and radiological threats or emergencies encountered by radiation portal monitors at shipping ports and border crossings.

IEComm Publication Available on IAEA Web Site



The Operations Manual for Incident and Emergency Communication (IEComm, 2012) is now available on the IAEA web site at the following link: http://www-pub.iaea.org/MTCD/Publications/PDF/EPR_IEComm-2012_Web.pdf.

Please note that its Attachment 1 is for restricted distribution only and is therefore not publicly available. It is, however, available on the USIE site.

IEC on Twitter

The IEC is now on Twitter and we encourage you to follow us @IAEAIEC. On Twitter, we share news of our current activities and publications, and other interesting information from the IAEA.

Feel free to retweet us anytime. We look forward to seeing you on social media and welcoming many new followers!




IEC News


The IEC welcomes Phillip Vilar Welter (Spain) as Associate Emergency Preparedness Officer, Michael Ammann (Austria), Nera Belamaric (Croatia) and Eduardo Herrera Reyes (Chile) as consultants, and Johanna Mayer Dipauli (Italy) as team assistant.

Follow the history of emergency preparedness and response activities at the IAEA in the IEC Information Bulletin. This quarter, we look at the years 1997 to 2003. In the next issue, we will cover the years 2004 to 2011.

1997
Emergency Preparedness and Response Unit (EPRU) formed in Radiation Safety Section, Division of Radiation and Waste Safety (NSRW), Department of Nuclear Safety



2000
Emergency Response Centre (ERC) established as a 24 hour warning point and the IAEA's operational focal point



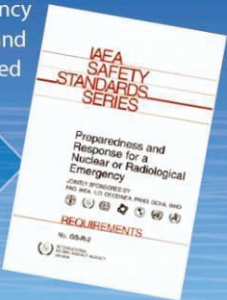
Emergency Notification and Assistance Conventions (ENAC) web site operational

2001
First meeting of the competent authorities identified under the EMERGENCY CONVENTIONS



First IAEA Safety Requirements on emergency preparedness and response published

2002



2003
Emergency Preparedness and Response Section (EPRS) created



Impressum

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