



News from the Incident and Emergency Centre
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New EPR-NPP Public Protective Actions Publication

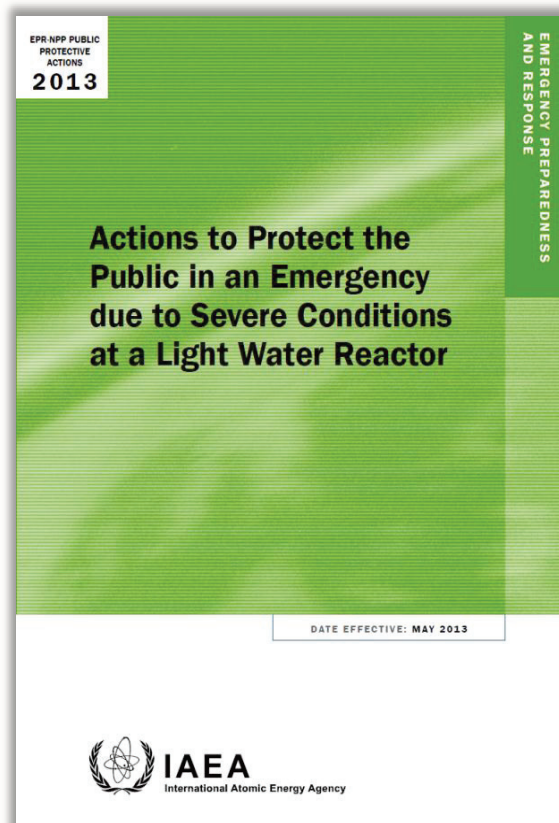
The latest publication in the IAEA Emergency Preparedness and Response (EPR)-series, *Actions to Protect the Public in an Emergency due to Severe Conditions at a Light Water Reactor* (EPR-NPP PUBLIC PROTECTIVE ACTIONS, 2013), was issued in May 2013. It is intended for those responsible for making and for acting on decisions in the event of an emergency involving actual or projected severe damage to the fuel in the reactor core or in the spent fuel pool of a light water reactor, to provide an understanding of the actions necessary to protect the public. It provides a basis for developing the tools and criteria at the preparedness stage that would be needed to take appropriate protective actions and other actions in response to an emergency. It provides guidance on:

- Taking actions to protect the public based on conditions at the nuclear power plant using an emergency classification system;
- Assessing environmental monitoring measurements taken after a release of radioactive material to determine if protective actions are needed; and
- How to place the radiological health hazard in perspective for the public and answer key questions, such as "Am I safe?" and "What do I need to do to protect myself and family?"

The publication is currently only available in English, but will soon be available in Spanish and Russian. The associated training materials will be available from the IAEA's and the Incident and Emergency Centre's websites later this year, and are also planned to be translated into other official UN languages. In addition, the IEC offers workshops on this publication at the national, regional and inter regional levels when requested by a Member State.

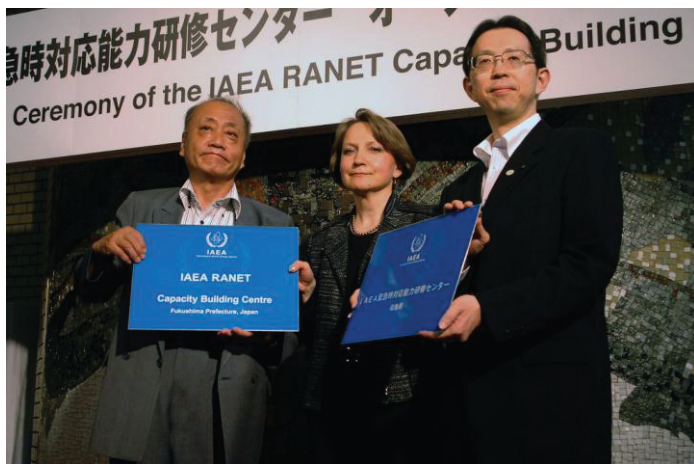
The new publication is available at:

http://www-pub.iaea.org/MTCD/Publications/PDF/EPR-NPP_PPA_web.pdf



Designation of the RANET CBC Centre in Fukushima

On May 27, 2013, the IAEA, in cooperation with the Government of Japan, designated the IAEA Response and Assistance Network (RANET) Capacity Building Centre (CBC) in Fukushima Prefecture. The Centre, located in Jichikaikan, is the collective designation for several activities that will be conducted to meet the need to enhance Member States' emergency preparedness and response (EPR) capacities, in light of the March 2011 accident at TEPCO's Fukushima Daiichi Nuclear Power Station. The official designation ceremony included speeches by Ms. Elena Buglova, Head of the IAEA IEC, Ambassador Shin Maruo, Ministry of Foreign Affairs of Japan and Masao Uchibori, Fukushima Prefecture Deputy Governor.



From left to right: Ambassador Shin Maruo, Ministry of Foreign Affairs of Japan, Ms. Elena Buglova, Head of the IAEA Incident and Emergency Centre, and Mr. Masao Uchibori, Deputy Governor of Fukushima Prefecture, hold up signs that will be placed on the doors to the IAEA RANET Capacity Building Centre, Fukushima, 27 May 2013. (Photo Credit: Susanna Löff/IAEA)

The IAEA RANET CBC will conduct diverse EPR training activities. Relevant IAEA radiological monitoring equipment will be stored, used in the training activities and may also be deployed by the IAEA in case

of nuclear emergencies in the Asia Pacific region, should such an emergency arise despite all efforts made to prevent it.

The Centre's first training activity was an IAEA RANET workshop organized by the IEC, held from 28–31 May 2013 in Fukushima Prefecture. Grouped in teams, participants performed radiation monitoring surveys in areas affected by the March 2011 TEPCO's Fukushima Daiichi Nuclear Power Station accident. They exchanged and discussed their results on gamma dose rate measurements and in situ gamma spectrometry. The workshop provided an opportunity to discuss ways to improve coordination amongst international teams delivering assistance in nuclear or radiological emergencies.

The IAEA RANET Capacity Building Centre will initially operate for five years. The Centre's second international workshop is scheduled for October 2013.



Marko Giacomelli of Slovenia's ZVD d.d. Institute of Occupational Safety, Bostjan Crnic and Matjaz Stepisnik of Slovenia's Jozef Stefan Institute use gamma spectrometry and other equipment to measure radiation as part of an IAEA workshop exercise in the evacuated zone around TEPCO's Fukushima Daiichi Nuclear Power Station. To the right is Karl Östlund of the Swedish Radiation Safety Authority. Fukushima, 29 May 2013. (Photo Credit: Susanna Löff/IAEA)

Expansion of IAEA RANET Capabilities in 2013

New National Assistance Capabilities (NAC) have been registered in the IAEA RANET. In June 2013, Canada officially registered NAC in the field of biological dosimetry through the Atomic Energy of Canada Ltd., which is part of the Canadian Biodosimetry Network.

Canada can contribute expertise to RANET in the fields of measurement techniques (in biological dosimetry) and evaluation and assessment (dose assessment predictions)

and provide medical equipment such as blood cell counters and blood collection kits.

The IEC thanks Canada for its contribution to RANET. 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 in RANET.

IEC Response to Recent Events

PERU – Follow-up medical treatment of a worker in industrial gammagraphy

In January 2012, the IAEA's IEC provided assistance to Peru to address the overexposure of a radiographer worker involved in industrial gammagraphy. In response to a request from Peru under the Assistance Convention, an assistance mission was immediately organized in Peru to provide medical advice followed by a second assistance mission deployed for specific medical treatment of the overexposed patient, who was treated in France.

In May 2013, Peru requested a follow-up medical treatment for the same patient. The specific conditions of this assistance request were met by Chile, with the involvement and support of the French medical experts who were involved in the provision of assistance in 2012. A first stage of this assistance mission was carried out in Santiago, Chile, in the last days of June 2013. Medical experts from Chile, France and the IAEA established the plan for the patient's treatment in Chile by means of reconstructive surgery and cell therapy (mesenchymal stem cells sampling/culture and injection). The treatment was initiated in July and will continue up to September 2013.

SIERRA LEONE – Safe storage of a radiological source

On 21 June, the IEC was notified by the Nuclear Safety and Radiation Protection Authority of Sierra Leone that a CS-137 radioactive source was discovered in a residential house in the city of Freetown. The house had an adjoining workshop used for recycling scrap metal and the source was found buried just a few centimetres in the dirt floor. The Nuclear Safety and Radiation Protection Authority of Sierra Leone recovered the source and transported it to its headquarters in Freetown. The Government of Sierra Leone then requested assistance

from the IAEA under the Assistance Convention in relation to the recovery and safe management of the orphan radioactive source. The IEC drafted and approved an Assistance Action Plan on June 22–23 and made emergency travel arrangements for an IAEA expert to fly to Sierra Leone. The IAEA expert arrived in Freetown early in the morning on June 25. The expert was met by the Nuclear Safety and Radiation Protection Authorities

and immediately started working on reviewing the situation, conditioning the source and performing a dose assessment.



Internal support frame for the radiological source being lowered into the 200 litre drum. (Photo credit: Juan Carlos Benitez-Navarro/IAEA)

The assistance mission was successful. The radiological source was properly conditioned and placed safely in long term storage in Sierra Leone.



The IAEA expert installing the proper labels on the container. (Photo credit: Nuclear Safety and Radiation Protection Authority of Sierra Leone)

ConvEx-1a Exercise March 2013 Evaluation

On 19 March 2013, the IEC conducted a ConvEx-1a exercise to test that National Contact Points are continuously available to receive notifications. It was also an opportunity for them to practice using the IAEA Unified System for Information Exchange in Incidents and Emergencies (USIE) website. During the ConvEx-1a exercise, the IEC contacted 215 Contact Points. In the case of 57 Contact Points, the fax message could not be delivered. In addition, the fax distribution from the IEC

was delayed for several Contact Points because of a technical issue related to the fax distributor's settings. Therefore, only a few faxes were rapidly distributed, but many fax messages were delayed for several hours.

In parallel with the USIE Exercise message's publication, the IEC sent a receipt confirmation request on the USIE Exercise website. This request was sent over the alert channels, which are activated on the USIE Exercise site.

The organizations which activated their fax alert channel on the site received a second fax (in a different format), which was distributed quickly after the USIE Exercise message's publication. Only 106 Contact Points replied to the exercise message, although the IEC specifically asked for a confirmation in this ConvEx-1a exercise. A total of 75 Contact Points replied by fax or email (of which 48 confirmed on the USIE Exercise site as well), and 31 Contact Points confirmed on the USIE Exercise site only.

The National Warning Points of Armenia, Belgium, France, Iceland, India, Italy, Lithuania, Monaco, Montenegro, Portugal, the Russian Federation, Slovakia,

Slovenia, South Africa, Sweden, Switzerland, Turkey and the United States of America responded within 30 minutes by fax. The National Warning Points of Argentina, Australia, Azerbaijan, Finland, Germany, Hungary, Italy, Mexico, Poland, Portugal, Serbia, Slovakia and Switzerland confirmed the message on the USIE Exercise site within 30 minutes. Well done!

This was the first exercise in which the IEC had more confirmations on the USIE Exercise site than by fax or email. The overall response is still considered low, as 51% of all Contact Points did not respond to the exercise message at all. The IEC will follow-up with all Contact Points who could not be contacted during this exercise.

IEC Conducts a Convex-2b Exercise

On 11–12 June 2013, the IEC conducted a ConvEx-2b exercise. The aim was to provide Member States with the opportunity to exercise national and international processes for requesting and receiving international assistance and/or the provision of international assistance following a nuclear or radiological incident or emergency.

One Member State played the role of Requesting State. The exercise scenario involved an accident at a nuclear power plant that was initiated by an external event. Consequently, the accident evolution involved damage to the nuclear fuel and a loss of containment resulting in a large release of radioactive materials to the environment. The IEC conducted the exercise and also played its role in the facilitation of international assistance.

The exercise play started approximately 30 hours following the initiating event that caused the accident. At the start of the exercise, the exercise scenario and status were presented to the players in the Requesting State, by the local controller and through the IEC published emergency notification reports on the USIE Exercise website. As the exercise evolved on Day One, the Requesting State submitted two separate requests for assistance to the IAEA through the USIE Exercise website. These requests were published, utilizing a recently implemented feature on USIE, and alerts sent to all exercise players. The requests for assistance were also faxed to all exercise players asking them to submit their offers of assistance to the IEC. Offers from 20 Member States were received, compiled and reviewed by the IEC.

On Day Two of the exercise, the IEC played in real time in Full Response Mode. The IEC forwarded compiled offers of assistance to the Requesting State for consideration and conducted a series of teleconferences with the Requesting States to define the assistance

required. The IEC also interacted directly with many of the States offering assistance to determine how to best use the offered capabilities. A teleconference was conducted between the IEC, the Requesting State and various Assisting States to coordinate the deployment of Field Assistance Teams. Finally, Assistance Action Plans were prepared for two separate Assistance Missions to the Requesting State. In addition, the Regional Specialized Meteorological Centres (RSMCs) of the World Meteorological Organization (WMO) provided atmospheric dispersion products to the IEC throughout the exercise.



Incident and Emergency Centre. (Photo Credit: Dean Calma/IAEA)

The exercise demonstrated that there are a large number of Member States willing to offer their capabilities in response to a nuclear accident, reinforcing what was observed during the response to the Fukushima Daiichi accident. It also provided the IEC with the opportunity to coordinate a large provision of assistance to a Requesting State, while also performing its other functions in response to a nuclear accident, thus helping to strengthen the IEC's preparedness to respond.

Several of the Member States that offered assistance are not yet registered in RANET or they offered assistance in areas not yet added to RANET. The IEC will continue to work with these Member States to further build RANET.

Member State Preparedness

To assist Member States with applying IAEA guidance in the area of emergency preparedness and response, 13 training events were conducted during the second quarter of 2013 at the inter regional, regional, sub-regional and national levels:

Inter regional level:

- Training Course on Emergency Consequence Management (Austria, Vienna, 21–24 May);
- Training Course on Emergency Preparedness and Response for States Embarking on Nuclear Power Programme (Austria, Vienna, 24–28 June).

Regional and sub-regional levels:

- Workshop on Applications of Biodosimetry in Case of a Radiation Emergency (Serbia, Belgrade, 2–5 April);
- IAEA-PAHO/WHO Workshop on International Emergency Notification and the Role of the Health Sector in Radiation Emergencies (Panama, Panama City, 24–26 April);
- Workshop on Basic Safety Standards (Uruguay, Montevideo, 27–31 May);
- Workshop on Assessment of National Emergency Preparedness and Response Capabilities and Implementation of EPREV (Austria, Vienna, 3–7 June);
- Training Course for Medical Response to Radiation Emergencies (Algeria, Alger 16–20 June);
- Training Course on Generic Procedures for Response to a Nuclear or Radiological Emergency at Research Reactors (Morocco, Rabat, 24–28 June).

National level:

- Training course on Medical Response to Radiation Emergencies (Peru, Lima 13–17 May);
- Workshop on Response Actions and Communication with the IAEA during a Nuclear or Radiological Emergency, Part 1, for Belarus (Austria, Vienna, 21–23 May);
- Training course on Medical Response to Radiation Emergencies (Venezuela, Caracas, 3–7 June);

- Workshop on Response Actions and Communication with the IAEA during a Nuclear or Radiological Emergency, Part II, for Belarus (Austria, Vienna, 18–20 June);
- Workshop on Response Actions and Communication with the IAEA during a Nuclear or Radiological Emergency for Ukraine (Austria, Vienna, 25–27 June).

The IEC implemented Emergency Preparedness Review Missions (EPREV) in Indonesia, Jakarta, 22–24 April and Jordan, Amman, 7–16 May.

In addition, the IEC participated in Inter Regulatory Review Service (IRRS) missions to Bulgaria (7–19 April), Poland (14–25 April) and the Czech Republic (29–30 April). The IEC also participated in other experts missions and events related to EPR, including: the International Conference on Effective Nuclear Regulatory Systems (Canada, 10 April), the 15th Working Group on Public Communications of Nuclear Regulatory Organisations (WGPC) (France, 14–16 May), the Workshop on Radiological Emergency Preparedness and Response to Major Public Events (Brazil, 20–24 May), the NERIS Topical Workshop on the Management of Contaminated Goods (Spain, 21–22 May), the Asian Nuclear Safety Network Emergency Preparedness and Response Topical Group Meeting (Vietnam, 17–21 June) and the 2013 American College of Cardiology (ACC) Mexican Cardiology Congress (Mexico, 20–22 June).

Upcoming Activities

Information about upcoming activities for Member State emergency preparedness is available on the online calendar of events. Just click on 'Meeting Calender' from the right side menu at ns.iaea.org

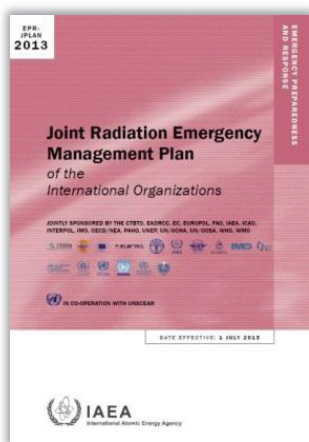
Beyond the second quarter of 2013, the following peer review services are scheduled: IRRS missions in Indonesia (preparatory mission), the Czech Republic, the Russian Federation and Belgium, an EPREV follow-up mission in Tajikistan, as well as EPREV preparatory missions in South Africa and Kuwait.

New Publications, Training Materials and Translations

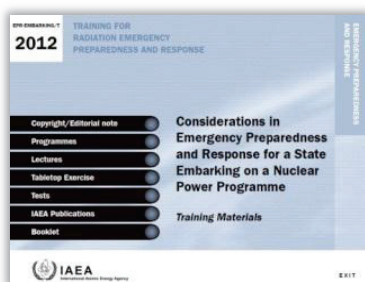
New EPR-series publications

The new version of the Joint Radiation Emergency Management Plan of the International Organizations (EPR-JPLAN, 2013) is now available. The Joint Plan is developed by the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE), with the aim of enhancing and coordinating efforts in EPR in case of a nuclear or radiological incident or emergency. The Joint Plan describes the objectives of response, operational concepts and preparedness arrangements, the organizations involved in response, their roles and responsibilities, and the interfaces among them and between them and States.

In addition, the new publication, Actions to Protect the Public in an Emergency due to Severe Conditions at a Light Water Reactor (EPR-Public Protective Actions, 2013), is now available (see page 1).



New training materials are also available. Cytogenetic Dosimetry: Applications in Preparedness for and Response to Radiation Emergencies – Training Materials (EPR-Biodosimetry/T, 2012), includes lectures and two working sessions on Cytogenetic Dose Applications. The training materials for Considerations in Emergency Preparedness and Response for a State Embarking on a Nuclear Power Programme (EPR-Embarking/T, 2012) are now also available. They include lectures, two tabletop exercises corresponding to the two phases of development of a framework of EPR and

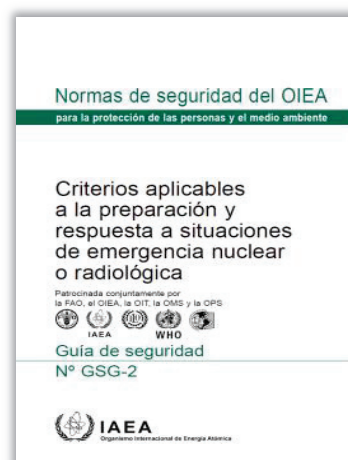


three tests designed to assess the effectiveness of the training and to increase awareness. Both training courses are offered to Member States at the national and regional levels.

New translations

The publication, Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency (GSG-2), from the IAEA Safety Standards Series, is now available in Spanish.

This Safety Guide presents a coherent set of generic criteria (expressed numerically in terms of radiation dose) that form a basis for developing the operational levels needed for decision making concerning protective and response actions.



In the EPR-series, EPR-Embarking is now available in French. This publication aims to assist States that are considering embarking on a nuclear programme in developing an adequate level of capabilities for EPR to nuclear or radiological emergencies prior to commissioning their first nuclear power plant, and to ensure the maintenance of the EPR programme throughout the lifetime of the facility.

In addition, the publication Communication with the Public in a Nuclear or Radiological Emergency (EPR-Public Communications, 2012) is now available in French and Spanish. This 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 that a consistent message is being provided to the public before, during or after a nuclear or radiological emergency.

The new publications, training materials and translations are available at iec.iaea.org

Just click on 'Technical Tools' on the right hand menu.

For the EPR-JPLAN, 2013, click on 'Technical Areas', 'Incidents and Emergencies' and 'International Response System' on the left hand menu.

23rd Regular Meeting of the IACRNE

The 23rd Regular Meeting of the IACRNE took place in The Hague from 22–24 May 2013, at the invitation of the IAEA. The European Police (EUROPOL) hosted the meeting. Representatives of 14 IACRNE member organizations participated in the meeting.* In addition, representatives from the United Nations Counter-Terrorism Implementation Task Force, the Euro-Atlantic Disaster Response Coordination Centre (EADRCC/NATO), the International Federation of Red Cross and the World Food Programme attended the meeting as observers.

During the meeting, the Committee members recapitulated conclusions and outcomes from the 22nd Regular Meeting, reviewed reports on IACRNE activities (JPLAN Edition 2013, revision of GS-R-2 requirements, establishment of ad hoc working groups) and reports on EPR activities in organizations and entities present at the meeting (the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) presented their activities over the video teleconference). The progress report on the ConvEx-3 exercise's preparation (November 2013) was discussed, as was a proposal for the Committee's work plan and plans for activities for its two working groups on Coordinated

International Exercises and on Air and Maritime Transportation. Conclusions of the 17th Inter-Agency Committee on Radiation Safety meeting were discussed and a table top exercise based on a food contamination scenario was conducted.

Consensus was reached regarding the membership of the EADRCC in the IACRNE and the decision on acceptance of the IFRC as a new IACRNE corresponding organization (observer) was postponed, as not all IACRNE members have provided written feedback to the IACRNE Secretary. Overall, fifteen decisions and conclusions were made. The 24th Regular IACRNE Meeting will be held from 19–21 November 2014 and will be hosted by the European Commission.

* the Comprehensive Nuclear-Test-Ban Treaty Organization, the European Commission, EUROPOL, the Food and Agriculture Organization of the United Nations, the IAEA, the International Civil Aviation Organization, the International Criminal Police Organization, the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development, the United Nations Office for Coordination of Humanitarian Affairs, the Pan American Health Organization, the United Nations Environment Programme, the UNSCEAR, the World Health Organization and the WMO.

Pictures from the IEC Full Response Mode Exercise available on Flickr

On 21 November 2012, the IEC conducted a Full Response Mode Exercise. Have a look at a nice sequence of pictures from the IAEA Flickr website:

http://www.flickr.com/photos/iaea_imagebank/sets/72157634579016756/



The Technical Team Leader, a Radiological Specialist and one of the exercise evaluators discussing information during the Full Response Mode Exercise (FRME). (Photo credit: Dean Calma/IAEA)



The Head of the IEC, Ms. Elena Buglova, briefing the IAEA Director General Yukiya Amano on the status of the status of the FRME. (Photo credit: Dean Calma/IAEA)

IEC News

The IEC welcomes Jean-Francois Lafortune (Canada) as Emergency Preparedness Coordinator, Andrew Bramnik (USA) and Hiroko Ino (Japan) as consultants, and Aqmal Anis (Malaysia), Sarah-Claude Filion-Provencher (Canada) and Vasily Kovtunov (Russian Federation) as interns.

Atmospheric Modelling Programme Available to Member States

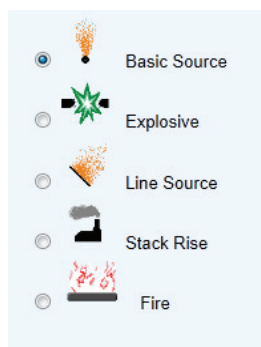
The article was drafted in cooperation between the IAEA and Lee Glascoe (NARAC) and Brenda Pobanz (NARAC)



Providing emergency managers around the world with interactive, browser-based access to NARAC and other Global Dose Assessment Centers

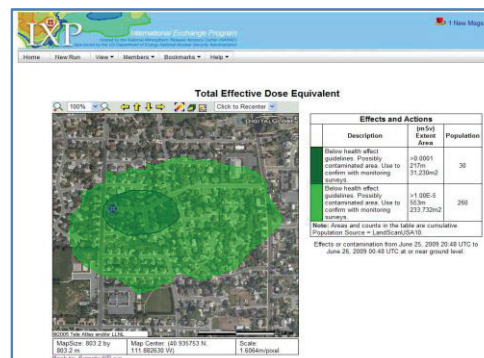
The International Exchange Program (IXP) is a web-based atmospheric release and consequence tool developed to provide Member States of the IAEA with radiological emergency support. IXP is hosted by the National Atmospheric Release Advisory Centre (NARAC**) located at the Lawrence Livermore Laboratory in California sponsored by the U.S. Department of Energy National Nuclear Security Administration. The IXP system provides rapid, three-dimensional, time-dependent computational predictions of contaminant concentrations, doses, and health effects caused by atmospheric releases of radioactive materials anywhere on earth. The primary mission of IXP is to be constantly available to support Member States of the IAEA in atmospheric modelling during a radiological or nuclear emergency.

The intuitive website is extremely flexible and allows the users to choose a number of options. Users can choose between five scenario types or upload specific pre-defined scenarios using a radiological mixture or a specific selection of isotopes to initiate simulation. Users can also choose appropriate response settings: 'Test/Drill' where no staff members will be involved, or 'Exercise' or 'Emergency' where expert staff at NARAC will assist in the modelling. Users can



access actual metrological data from around the world or input pre-determined data for an exercise or drill.

The site automatically generates a series of consequence reports describing the health effects of the release. An interactive map feature allows the ability to probe the plume and affected area at any location. Time-varying IXP-generated contours can be overlaid on a satellite image or map and exported to other GIS applications such as Google Earth. The IXP is ideal for sharing information between users. Model runs, plots and analysis can easily and quickly be shared between all or a subset of the hundreds of authorized IXP users.



Interested Competent Authorities from an IAEA Member State may register to use the IXP website at: ixp.llnl.gov. Click on 'Request IXP Account' under the Password box.

** NARAC work is performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

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EDITORIAL 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.