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1957–2007

Answering the Request for Emergency Assistance Worldwide.

The Incident and Emergency Centre (IEC)

Chile, 15 December 2005 — *A construction worker finds a small, shiny, metallic object at a cellulose construction site. He puts it in his pocket and later shows it to a colleague. They take it to their boss. By the end of the day, six others have examined it. By evening, the worker is in the hospital, vomiting from radiation exposure. What he had found was a powerful, unshielded iridium-192 source. By accident, it had dislodged from equipment where it was used to check for welding flaws in the building under construction. Chile´s radiation and health authorities placed an urgent call for help to the IAEA in Vienna. The worker´s medical condition had turned for the worse. Who can help? The IAEA's Incident and Emergency Centre (IEC) assisted local authorities and in less than 24 hours of the initial call an international team was on its way to Chile.*

Typical iridium-192 shielding device.
Photo: Chilean Nuclear Energy Commission

Cellulose plant under construction.
Photo: Chilean Nuclear Energy Commission

Ms. Elena Buglova, a medical doctor, was part of the IEC team responding to Chile´s call for assistance, after a construction worker was severely burned by a lost radioactive source. The Centre is a 24-hour contact point for countries dealing with nuclear or radiological incidents and emergencies.
Photo: D.Calma/IAEA

IEC
Incident and Emergency Centre

This story is by no means unique. Many countries across the globe have experienced radiological incidents involving lost, stolen or damaged radioactive sources. Many of them contact the IAEA for specialized support and assistance.

In 2005, the IAEA announced the establishment of a fully integrated Incident and Emergency Centre (IEC). The functions of the IEC include coordinating prompt assistance to requesting States in the case of a nuclear security incident. As the global focal point for international preparedness, communication and response to nuclear and radiological incidents or emergencies irrespective of their cause, the IEC stands at the centre of coordinating effective and efficient activities worldwide. The decision to create an integrated Centre within the IAEA became more pressing with the increase in the use of nuclear applications as well as the heightened concern over the malicious use of nuclear or radioactive materials.

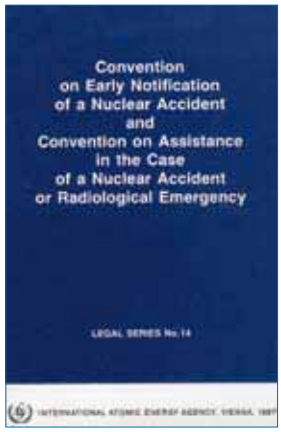
The IAEA is the world's centre for cooperation in the nuclear field

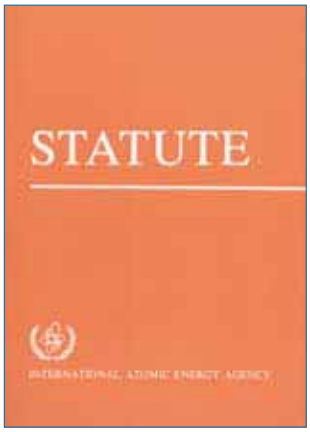
The IAEA works with its Member States and partners worldwide to promote safe, secure and peaceful nuclear technologies. The Agency's Statute assigns functions to the Secretariat in relation to radiation emergencies, including the fostering of international cooperation in the area of emergency preparedness and response. The Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Emergency Conventions) place specific legal obligations on the IAEA with regard to emergency preparedness and response.

Today, the IEC provides around-the-clock assistance to Member States in dealing with nuclear and radiological events. This is accomplished by timely and efficient services and the provision of a coordinated international response to such incidents or emergencies. Under the Emergency Conventions, the IEC coordinates the actions of global experts and the efforts within the IAEA. It also helps to coordinate the responses of Member States as well as other international organizations, such as the WHO, FAO or WMO in case of a nuclear or radiological incident and emergency.

The IEC's work includes the evaluation of emergency plans and assistance in their development. The Centre also develops accident classifications based on plant conditions and supports effective communication between neighbouring countries. In addition, it develops various response procedures and facilitates national exercises on response to reactor emergencies.

The IEC ensures that the IAEA's incident and emergency arrangements are fully operational, efficient and effective.





This includes training a broad range of IAEA staff to respond to emergencies as well as training of external experts. Response to incidents and emergencies can involve the exchange of information, provision of advice and/or the coordination of field response.

In order to coordinate a global response, the IEC hosts a Response Assistance Network (RANET) under which Member States, Parties to the Emergency Conventions and relevant international organizations are able to register their response capabilities. This network aims to facilitate assistance in case of a nuclear or radiological incident or emergency in a timely and effective manner.

Doctors need to recognize symptoms of radiation exposure in victims. The IEC has developed training material for 'first responders', who are the first on the scene in an emergency. (Photo: T. McKenna/IAEA)

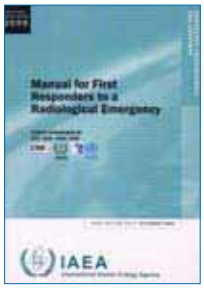
Preparedness

A central focus of the Centre is helping Member States enhance their own preparedness. The Centre continuously works to refine standards and guidance for strengthening states' preparedness. It develops practical tools and training programmes to assist Member States in promptly applying the standards. The IEC continually updates documents that can be readily utilized by Member States.

An exercise in Indonesia involving a 'dirty bomb' is used to train local officials on ways to respond to security threats involving radioactive materials. (Photo: T. McKenna/IAEA)

Scenes from inside the IEC. IEC head Warren Stern (right center) says it is a priority to strengthen global cooperation in case of a terrorist attack involving nuclear or radioactive materials. (Photo: D. Calma/IAEA)

A vital part of this effort is preparing first responders (e.g. fire brigade, public health officials and law enforcement) to work effectively during the first few hours of a radiological emergency. This is achieved through continuous training utilizing the *Manual for First Responders to a Radiological Emergency*.

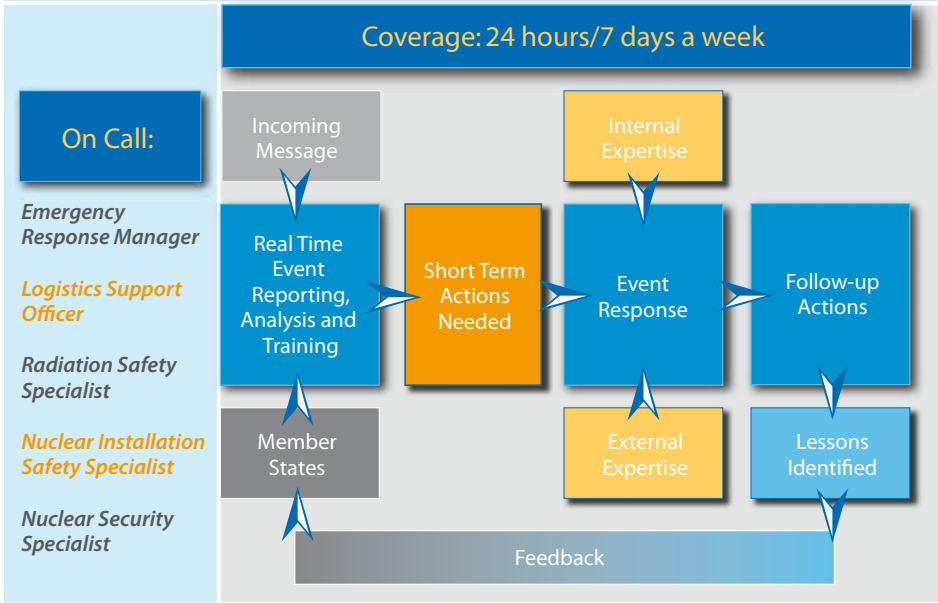


Through regional and national training courses using standardized teaching materials, the IEC effectively makes information available to Member States and assists them in applying guidance. These include international requirements for emergency preparedness, guidance for first responders, medical responders, radiological assessors and national planners preparing exercises. The Centre also conducts appraisal missions (Emergency Preparedness Review missions) to Member States to help develop national capabilities for response consistent with international requirements.

Being well prepared is the basis for effective and efficient responses to emergencies. To achieve this, the IEC maintains the Joint Radiation Emergency Management Plan of the International Organizations and regularly organizes and supports various levels of exercises. These exercises are referred to as Convention Exercise (ConvEx). A ConvEx-1 tests communication; a ConvEx-2 tests response times; and a ConvEx-3 tests the full operation of the information exchange mechanism worldwide.

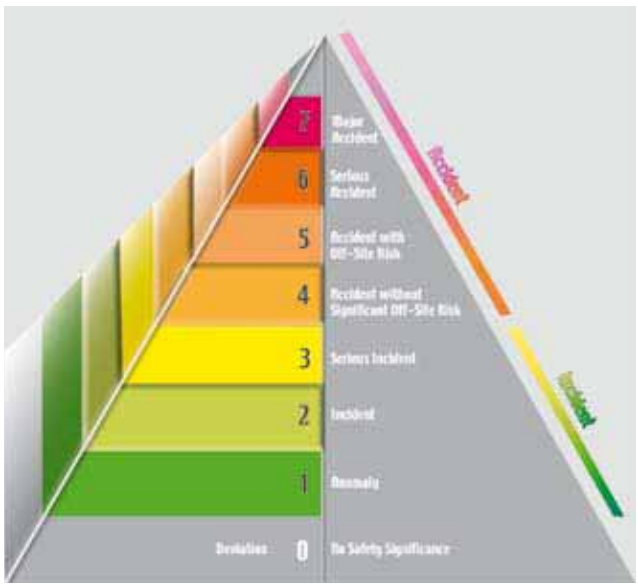
The IAEA Board of Governors approved the International Action Plan for strengthening international preparedness and response system for nuclear and radiological emergencies in 2004. This Action Plan, under the legal framework of the Assistance and Early Notification Conventions, is serving to improve and strengthen the international preparedness and response system. The IEC coordinates and supports the implementation of the Action Plan.

IEC — Flow of Response



Reporting

An important component of the global emergency response system is the notification and reporting arrangements and systems operated by the IEC. The IEC operates systems that are reliable and secure. Member States, Non-Member States and international organizations have historically reported events and requests for assistance to the IAEA through the ENATOM arrangements using the ENAC web site, phone or fax. Under these arrangements, States have nominated Competent Authorities and National Warning Points who are able to receive, convey and quickly provide authoritative information on incidents and emergencies.



The Agency has also separately operated the NEWS reporting and information exchange system to report events that generally don't fall under the Conventions. The NEWS system is used to promptly communicate the safety significance of events utilizing the International Nuclear Event Scale (INES). With the creation of the IEC, the NEWS system has become part of the reporting and information exchange system operated by the IEC. In an effort to facilitate reporting, the Centre is developing a single system to incorporate both existing reporting systems.

Epilogue — *Thanks to Chile's commitment and the IEC's work to strengthen Member States' preparedness, Chile was prepared to effectively react to the incident on December 15th. The construction worker's life was saved. The IEC will continue serving as the world's focal point for incident and emergency preparedness and response.*

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