

Incident and Emergency Preparedness and Response

Objective

To establish effective and compatible national, regional and international capabilities and arrangements for preparedness, early warning, timely response to actual, potential or perceived nuclear or radiological incidents and emergencies independent of whether the incident or emergency arises from an accident, negligence or a deliberate act, and for sharing official, technical and public information among Member States and relevant international organizations.

Status of Emergency Preparedness and Response around the World in 2008

Despite improvements in emergency preparedness and response (EPR) capabilities in 2008, the Agency concluded that many Member States still require assistance in building basic EPR capabilities. Specifically, EPR legislation has to be harmonized with international requirements; national threat assessment analysis needs to be either carried out or updated, since it forms the basis for national EPR systems; and national radiation emergency plans have to be developed. As a result, Agency efforts focused on: improving access to information (Fig. 1); building EPR capacities, partic-

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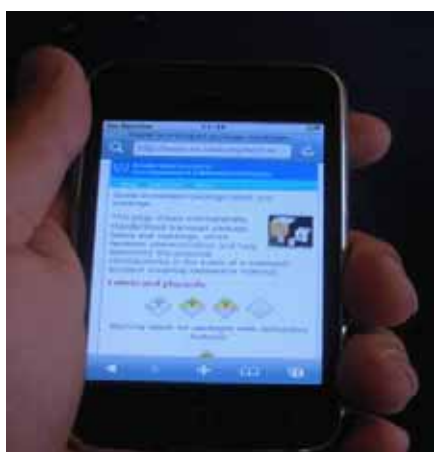


FIG. 1. The Agency's Manual for First Responders to a Radiological Emergency is now available for PDAs and mobile phones.

ularly in those Member States embarking on nuclear power programmes; testing existing capabilities; and expanding the scope of drills and exercises to include both safety and security related components.

In 2008, Denmark ratified the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention). The ratification by Senegal¹ and the accession of Gabon to both the Convention on Early Notification of a Nuclear Accident (102 parties at the end of 2008) and the Assistance Convention (101 parties at the end of 2008) were also noteworthy.

ConvEx-3

In July 2008, the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE)² coordinated a 'Convention Exercise' (ConvEx-3) to test the international response to a simulated accident with potential transboundary consequences. The exercise, based on a simulated accident at the Laguna Verde nuclear power plant in Mexico, was conducted over two days in cooperation with 75 countries and 10 international organizations.³ Its objectives were to: test the response of Member States and international organizations to a severe nuclear accident; test and evaluate the international emergency management system; and identify good practices as well as deficiencies and areas requiring improvement that cannot be identified in national exercises. The exercise scenario included an evolving nuclear safety

¹ The Early Notification and Assistance Conventions entered into force for Senegal on 23 January 2009.

² The Inter-Agency Committee on Response to Nuclear Accidents (IACRNA) was established following a meeting of FAO, IAEA, ILO, UNEP, UNSCEAR, WHO and WMO at the Agency's General Conference in September 1986. At the 20th IACRNA Regular Meeting, in November 2008, the Committee adopted a new name — the Inter-Agency Committee on Radiological and Nuclear Emergencies — effective 1 January 2009. The Agency is the secretariat for IACRNE.

³ Specifically, the European Commission, Europol, FAO, IAEA, ICAO, ICPO-INTERPOL, OECD/NEA, PAHO, WHO and WMO.

situation, radioactive release to the atmosphere, medical and public health issues, and issues concerning commerce, industry and tourism.

The Agency's Incident and Emergency Centre served as the global focal point for international communication and response during the exercise.

Key systems that would be required in an actual emergency were tested. The exercise evaluation team made a number of recommendations

for improvement, which IACRNE and the Agency are actively pursuing, including increasing the frequency of such full scale exercises and expanding the scope of their scenarios to include security related components.

Assistance to Member States

RANET is a global network of national assistance capabilities that can be called upon under the Assistance Convention. These capabilities include field assistance teams deployed to a requesting State, and external based support, which provides expertise and assessment without deployment to the event site. As of December 2008, 14 Member

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States had registered capabilities under RANET (Table 1).

The Agency has already begun to make use of RANET in coordinating timely assistance to requesting States. For example, in 2008 the Agency, in cooperation with other Member States, carried

out two field missions in response to requests under the Assistance Convention. One of these, an assistance mission to Benin

following a request for safe recovery of a radiation source in a scrap metal shipment, made use of France's capabilities in the areas of source search and recovery and the USA's capabilities in the analysis and interpretation of gamma ray spectra. Experts from the Agency and France were able to locate the source, identify its radioactive content and place it in safe temporary storage. Later, based on the information, photographs and gamma ray spectra provided by the mission, the type, model and origin of the source were determined by experts in the USA. The Agency is coordinating the repatriation of this source to the country of origin.

Emergency Preparedness Review missions assess and evaluate national emergency preparedness and

Table 1. Capabilities of Member States registered with RANET as of December 2008 (EBS: external based support; FAT: field assistance team)

	Aerial survey	Radiation monitoring	Environmental measurements	Source search/recovery	Assessment and advice	Medical support	Public health protection	Biodosimetry	Internal dose assessment	Bioassay	Histopathology	Dose reconstruction
Argentina								FAT/EBS				
Australia		FAT		FAT	FAT							FAT
Finland								EBS				
France			FAT/EBS	FAT	FAT/EBS			EBS	FAT/EBS			EBS
Hungary		FAT	FAT/EBS	FAT	FAT/EBS	FAT	FAT	EBS	EBS	EBS		
Mexico		FAT	FAT	FAT					FAT			
Nigeria	FAT	FAT	FAT	FAT	FAT							FAT
Pakistan		FAT/EBS	FAT/EBS	FAT/EBS	FAT/EBS							
Romania	FAT	FAT/EBS	FAT/EBS		EBS				EBS			EBS
Slovenia		FAT/EBS	FAT/EBS	FAT/EBS	FAT	FAT		FAT	FAT			FAT
Sri Lanka		FAT	FAT	FAT								
Sweden	FAT	FAT	FAT/EBS	FAT	FAT/EBS				EBS			
Turkey		FAT/EBS	FAT/EBS	FAT/EBS				EBS				
USA					EBS							

response programmes. In 2008, the Agency conducted missions to Kyrgyzstan, Montenegro, Tunisia and Uzbekistan to provide an independent assessment of their EPR programmes and capabilities, and their conformance with international standards. The Agency's Integrated Regulatory Review Service missions to Mexico, Spain and Ukraine also included a peer review of the EPR aspects of national regulatory systems.

The missions revealed that awareness of the need for a sound legal basis, properly functioning regulatory system and appropriate infrastructure to cope with the consequences of nuclear or radiological incidents and emergencies is growing in all of these countries. The Agency will continue to work to minimize discrepancies in national and local EPR arrangements and urge Member States to comply with the international standards in place. The mission reports summarized the findings and gave recommendations for mid-term and longer term corrective actions.

Event Reporting

In 2008, 63 Member States endorsed a revised INES: *The International Nuclear and Radiological Event Scale User's Manual* that consolidates previous clarifications and guidance, and harmonizes terminology and criteria across all areas

of application. The manual was presented at the Agency's 52nd General Conference in September, where Member States were requested to designate INES national officers and make greater use of the scale (Fig. 2).

During 2008, the Agency was informed or became aware of 183 events involving, or suspected to involve, ionizing radiation. In 43 cases the Agency took action, such as authenticating and verifying information with external counterparts, requesting/receiving information and providing official information or offering the Agency's good offices for potential follow-up and assistance if this was requested by Member States.

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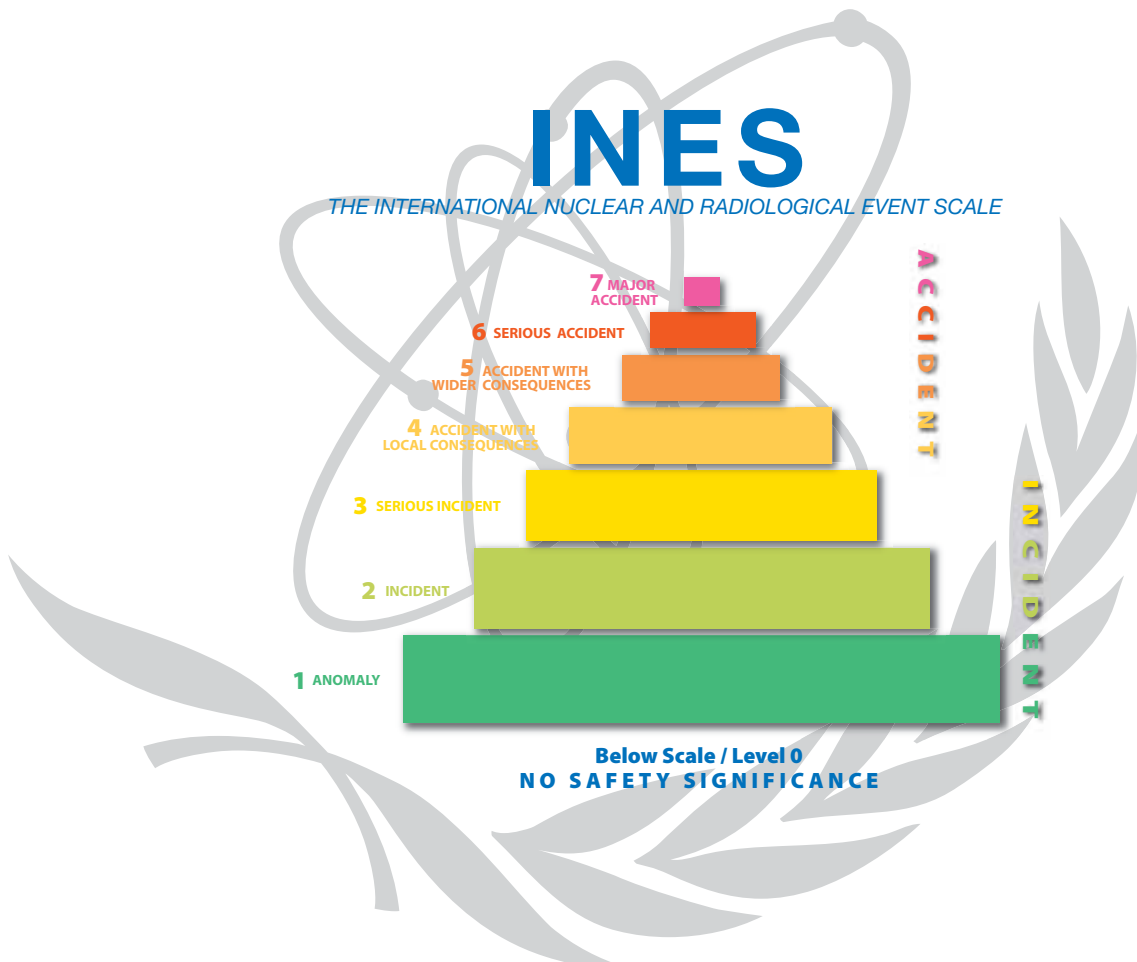


FIG. 2. The International Nuclear and Radiological Event Scale.