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2013

EMERGENCY PREPAREDNESS AND RESPONSE

Joint Radiation Emergency Management Plan

of the
International Organizations

JOINTLY SPONSORED BY THE CTBTO, EADRCC, EC, EUROPOL, FAO, IAEA, ICAO, INTERPOL, IMO, OECD/NEA, PAHO, UNEP, UN/OCHA, UN/OOSA, WHO, WMO

IN CO-OPERATION WITH UNSCEAR

DATE EFFECTIVE: 1 JULY 2013

IAEA
International Atomic Energy Agency

IAEA SAFETY STANDARDS AND RELATED PUBLICATIONS

IAEA SAFETY STANDARDS

Under the terms of Article III of its Statute, the IAEA is authorized to establish or adopt standards of safety for protection of health and minimization of danger to life and property, and to provide for the application of these standards.

The publications by means of which the IAEA establishes standards are issued in the **IAEA Safety Standards Series**. This series covers nuclear safety, radiation safety, transport safety and waste safety. The publication categories in the series are **Safety Fundamentals**, **Safety Requirements** and **Safety Guides**.

Information on the IAEA's safety standards programme is available at the IAEA Internet site

http://www-ns.iaea.org/standards/

The site provides the texts in English of published and draft safety standards. The texts of safety standards issued in Arabic, Chinese, French, Russian and Spanish, the IAEA Safety Glossary and a status report for safety standards under development are also available. For further information, please contact the IAEA at PO Box 100, 1400 Vienna, Austria.

All users of IAEA safety standards are invited to inform the IAEA of experience in their use (e.g. as a basis for national regulations, for safety reviews and for training courses) for the purpose of ensuring that they continue to meet users' needs. Information may be provided via the IAEA Internet site or by post, as above, or by email to Official.Mail@iaea.org.

RELATED PUBLICATIONS

The IAEA provides for the application of the standards and, under the terms of Articles III and VIII.C of its Statute, makes available and fosters the exchange of information relating to peaceful nuclear activities and serves as an intermediary among its Member States for this purpose.

Reports on safety and protection in nuclear activities are issued as **Safety Reports**, which provide practical examples and detailed methods that can be used in support of the safety standards.

Other safety related IAEA publications are issued as **Radiological Assessment Reports**, the International Nuclear Safety Group's **INSAG Reports**, **Technical Reports** and **TECDOCs**. The IAEA also issues reports on radiological accidents, training manuals and practical manuals, and other special safety related publications.

Security related publications are issued in the **IAEA Nuclear Security Series**.

The **IAEA Nuclear Energy Series** consists of reports designed to encourage and assist research on, and development and practical application of, nuclear energy for peaceful uses. The information is presented in guides, reports on the status of technology and advances, and best practices for peaceful uses of nuclear energy. The series complements the IAEA's safety standards, and provides detailed guidance, experience, good practices and examples in the areas of nuclear power, the nuclear fuel cycle, radioactive waste management and decommissioning.

Joint Radiation Emergency Management Plan
of the International Organizations

Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)

Euro-Atlantic Disaster Response Coordination Centre (EADRCC)

European Commission (EC)

European Police Office (EUROPOL)

Food and Agriculture Organization of the United Nations (FAO)

International Atomic Energy Agency (IAEA)

International Civil Aviation Organization (ICAO)

INTERPOL

International Maritime Organization (IMO)

Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (OECD/NEA)

Pan American Health Organization (PAHO)

United Nations Environment Programme (UNEP)

United Nations Office for the
Co-ordination of Humanitarian Affairs (OCHA)

United Nations Office for Outer Space Affairs (OOSA)

World Health Organization (WHO)

World Meteorological Organization (WMO)

In co-operation with the:

United Nations Scientific Committee on the
Effects of Atomic Radiation (UNSCEAR)

INTERNATIONAL ATOMIC ENERGY AGENCY

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JOINT RADIATION EMERGENCY MANAGEMENT PLAN OF THE INTERNATIONAL ORGANIZATIONS
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Foreword

The Convention on Early Notification of a Nuclear Accident (the 'Early Notification Convention') and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (the 'Assistance Convention') are prime legal instruments that establish an international framework to facilitate the exchange of information and the prompt provision of assistance in the event of a radiation emergency[1], with the aim of minimizing the consequences. The International Atomic Energy Agency (IAEA) has specific functions assigned to it under these Conventions, to which the the European Commission, through the European Atomic Energy Community (Euratom), the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the World Meteorological Organization (WMO) are full Parties. The arrangements between the IAEA, States and international intergovernmental organizations ('international organizations') for facilitating the practical implementation of those articles of the two Conventions that are operational in nature are documented in the IAEA's Operations Manual for Incident and Emergency Communication (IEComm)[2]. In addition to the IEComm arrangements and pursuant to the obligations placed on the IAEA by the Conventions, the IAEA regularly convenes the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE)[3], whose purpose is to coordinate the arrangements of the relevant international organizations for preparing for and responding to radiation incidents or emergencies. Although the Conventions assign specific response functions and responsibilities to the IAEA and the Parties, various international organizations have — by virtue of their statutory functions or of related legal instruments (including, for example, the WHO International Health Regulations 2005[4]) — functions and responsibilities that encompass aspects of preparedness and response in this context. Moreover, some regional organizations/bodies (e.g. the European Commission) are party to legally binding treaties and have directives and regulations which have a bearing on the emergency response arrangements in their Member States. There are also bilateral agreements between some international organizations that also have relevance to preparedness and response arrangements.

In 2002, the IAEA issued Preparedness and Response for a Nuclear or Radiological Emergency (IAEA Safety Standards Series No. GS-R-2), jointly sponsored by the FAO, the International Labour Organization (ILO), the OECD Nuclear Energy Agency (OECD/NEA), the Pan American Health Organization (PAHO), the United Nations Office for the Co-ordination of Humanitarian Affairs (OCHA) and WHO. The requirements established therein imply additional expectations with regard to operational emergency preparedness and response arrangements.

It is recognized by the participating organizations, and reflected in the above requirements, that good planning in advance of an emergency can substantially improve the response. With this in mind, international organizations that participate in the IACRNE develop, maintain and co-sponsor this Joint Radiation Emergency Management Plan of the International Organizations (the 'Joint Plan').

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[1] The term 'nuclear or radiological emergency' is also used.

[2] IEComm is the successor of the IAEA Emergency Notification and Assistance Technical Operations Manual (ENATOM), first issued in 1989. Since then, States and relevant international organizations have regularly received updates of the manual. The manual covers the communication protocols for Contact Points identified under the Early Notification and Assistance Conventions, as well as the protocol for users of the International Nuclear and Radiological Event Scale (INES).

[3] Formerly the Inter-Agency Committee for the Co-ordinated Planning and Implementation of Response to Accidental Releases of Radioactive Substances, which was established following a meeting of representatives of the FAO, International Labour Organization (ILO), United Nations Environment Programme (UNEP), United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), WMO, WHO and IAEA at the special session of the IAEA General Conference in September 1986.

[4] See Appendix A.

The IAEA is the main coordinating body for the development and maintenance of the Joint Plan. The Joint Plan does not prescribe arrangements between the participating organizations, but describes a common understanding of how each organization acts during a response and in making preparedness arrangements. Nothing in the Joint Plan should be construed as superseding the arrangements in place in the international organizations (or States). However, all international organizations (and States), irrespective of whether they are members of IACRNE, are invited to consider these arrangements in their own emergency management plans.

This publication is the sixth edition of the Joint Plan. It includes new arrangements/initiatives which were introduced after the accident at the Fukushima Daiichi nuclear power plants of the Tokyo Electric Power Company in 2011 and describes the arrangements as envisaged from 1 July 2013.

Although a controlled distribution list is maintained for the Joint Plan and any amendments, it is not restricted in its availability. An up to date version is available on the IAEA web site at http://www-pub.iaea.org/books/IAEABooks/Series/124/Emergency-Preparedness-and-Response.

NOTES FOR THE USER

This Joint Plan describes arrangements operative from 1 July 2013 and supersedes all previous editions. All copies of previous editions should now be removed from operational response systems and either archived or destroyed.

The 2013 edition incorporates the following main changes:

- Revised emergency classification;
- Elaborated response actions;
- Additional clarification of arrangements and response tasks;
- Updated capabilities and contact details of participating organizations;
- Updated list of publications/legal instruments of relevance to emergency preparedness and response.

For further information, feedback and copies, please contact the Secretary of the Inter-Agency Committee on Radiological and Nuclear Emergencies, Incident and Emergency Centre, International Atomic Energy Agency, Vienna International Centre, A-1400 Austria.

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telephone number: **+43 1 2600 22026 or 22745;**
Email address: **iec3@iaea.org.**

Note that this contact information is for routine correspondence purposes only and not for use during emergency situations.

Summary

Introduction

This "*Joint Emergency Management Plan of the International Organizations*" (the Joint Plan) describes the inter-agency framework for preparedness for and response to an actual, potential or perceived radiation incident or emergency independent of whether it arises from an accident, natural disaster, negligence, a nuclear security event or any other cause.

The following international organizations developed and cosponsor the Joint Plan: **Comprehensive Nuclear-Test-Ban Treaty Organization** (CTBTO), the **Euro-Atlantic Disaster Response Coordination Centre** (EADRCC), the **European Commission** (EC), the **European Police Office** (EUROPOL), the **Food and Agriculture Organization of the United Nations** (FAO), the **International Atomic Energy Agency** (IAEA), the **International Civil Aviation Organization** (ICAO), the **INTERPOL**, the **International Maritime Organization** (IMO), the **Nuclear Energy Agency of the Organisation for Economic Co-operation and Development** (OECD/NEA), the **Pan American Health Organization** (PAHO), the **United Nations Environment Programme** (UNEP), the **United Nations Office for the Co-ordination of Humanitarian Affairs** (OCHA), the **United Nations Office for Outer Space Affairs** (OOSA), the **World Health Organization** (WHO) and the **World Meteorological Organization** (WMO). In addition, the Joint Plan has been developed in cooperation with the secretariat of the **United Nations Scientific Committee on the Effects of Atomic Radiation** (UNSCEAR).

The IAEA is the main coordinating body for development and maintenance of the Joint Plan.

The Joint Plan is intended to support and underpin the efforts of national governments and ensures a coordinated and harmonized international response to radiation incidents and emergencies. It is not intended to interfere with nor replace the emergency response arrangements of international organizations (or States).

Planning basis

States have the ultimate responsibility to protect life, health, property, the environment and quality of life within their territories. National regulatory bodies require site-specific emergency plans for their nuclear installations. Despite extensive precautions, if a release of radioactive material leads to an actual, potential or perceived emergency, other States will require information to be able to advise on protective actions and determine the need for environmental monitoring. In radiation incidents or emergencies State authorities and international organizations need authoritative and credible information to address consequences of the event. The Early Notification and the Assistance Conventions are the prime legal instruments to facilitate the international exchange of information and prompt provision of assistance in the case of a radiation emergency.

In addition, international organizations may have also designated roles under these Conventions, other international instruments, or statutory and legally assigned functions related to international exchange of relevant information, assistance or other aspects of emergency management.

Emergency response

In accordance with the Early Notification and Assistance Conventions, the IAEA — as the leading organization for response to radiation emergencies — has prime responsibility for activating the inter-agency response system. It receives reports of an incident or emergency from a designated competent authority in a State (or international organization) and verifies any unconfirmed reports. It establishes primary functional

links with the reporting State (or international organization) and any affected States, providing direct communication with competent authorities. It also establishes functional links with relevant international organizations. These organizations may establish links with other competent authorities, agencies, regional centres and programmes that are prepared to provide information, advice or assistance.

The IAEA shares information with all participating organizations[5]. If any other participating organization receives credible information or a request for information, advice or assistance in case of a radiation incident or emergency it informs the IAEA and other participating organizations and coordinates the provision of advice or assistance in accordance with their respective mandates and obligations and the provisions of this Joint Plan.

If a State requests assistance from the IAEA under the Assistance Convention the provision of assistance will follow the IAEA's Response and Assistance Network (RANET) process i.e. the IAEA (1) informs States and international organizations that could provide assistance; (2) evaluates the situation in coordination with relevant international organizations, and may, in agreement with the requesting State, dispatch an initial assessment (fact-finding) team; (3) develops, in coordination with the requesting State and assisting parties, a detailed assistance action plan and upon acceptance of the plan by all involved parties, (4) obtains authorization for deployment of resources from assisting competent authorities and international organizations.

Emergency preparedness

The Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE) is the coordination mechanism amongst participating organizations to help ensure the development and maintenance of consistent and harmonized arrangements for preparedness for and response to radiation incidents and emergencies.

Detailed inter-agency procedures and response arrangements, including those for communicating with the media, are documented separately from this Joint Plan, and formalized by an exchange of letters between the parties concerned. They may be updated from time to time independently of this Joint Plan. The Joint Plan is reviewed at least biennially and revised if necessary.

The IACRNE is also a mechanism for coordinating international exercises organized by any participating organization, in order to optimize the involvement of international organizations and States in these exercises and to provide an opportunity to periodically exercise response arrangements in a coordinated manner. The participating organizations make best efforts to harmonize their programmes for assisting States in strengthening national and regional arrangements. They encourage their counterparts at the national level to strengthen their cooperation and ensure that arrangements are coordinated nationally so that they are compatible with the inter-agency arrangements described in this Joint Plan.

[5] Participating organizations are international organizations that are members of the Inter-Agency Committee on Radiological and Nuclear Emergencies.

Contents

Section 1

1. INTRODUCTION

1.1. Purpose and objectives

The purpose of this Joint Plan is to describe the inter-agency framework and *arrangements*[6] for preparedness for and response to a radiation incident or emergency independent of whether it arises from an accident, natural disaster, negligence, nuclear security event or any other cause.

In particular, its objectives are:

1. To provide a common understanding of (a) the emergency preparedness and response arrangements of each participating international organization, and (b) any relevant inter-agency agreements;
2. To provide an overall concept of operations between the international organizations based on the emergency response arrangements of each participating international organization, and any existing inter-agency agreements, in order to facilitate a timely, effective and co-ordinated response;
3. To facilitate development of agreements among the participating international organizations on operational emergency preparedness and response issues, if appropriate;
4. To provide a common understanding of the process for updating the inter-agency response agreements;
5. To provide a common understanding of preparedness roles and responsibilities of the participating international organizations with respect to: international standards, supporting national capabilities through provision of guidance and training, relevant research, emergency exercises and other preparedness considerations;
6. To guide managers in each participating organization who need to ensure that all appropriate arrangements are given the necessary support within their organization;
7. To facilitate the well founded development, maintenance and training of plans and procedures for each participating organization;

[6] Terms in italic are explained in the Glossary.

8. To draw the attention of personnel in States and international organizations[7] to this Joint Plan and to facilitate the development of compatible arrangements, if appropriate.

1.2. Scope

The Joint Plan describes the arrangements of the participating international organizations for responding to a radiation incident or emergency irrespective of its cause and the measures for developing, maintaining, exercising and improving these arrangements. The Joint Plan does not include detailed procedures for its implementation.

Although the Joint Plan may refer to international organizations other than those participating, these references are only understandings by the participating organizations and do not necessarily represent the understandings of those not participating in this Plan.

1.3. Participating organizations

The **Comprehensive Nuclear-Test-Ban Treaty Organization** (CTBTO), the **European Commission** (EC), the **European Police Office EUROPOL**, the **Food and Agriculture Organization of the United Nations** (FAO), the **International Atomic Energy Agency** (IAEA), the **International Civil Aviation Organization** (ICAO), the **INTERPOL**, the **International Maritime Organization** (IMO) the **Nuclear Energy Agency of the Organisation for Economic Co-operation and Development** (OECD/NEA), the **Pan American Health Organization** (PAHO), the **United Nations Environment Programme** (UNEP), the **United Nations Office for the Co-ordination of Humanitarian Affairs** (OCHA), the **United Nations Office for Outer Space Affairs** (OOSA), the **United Nations Scientific Committee on the Effects of Atomic Radiation** (UNSCEAR), the **World Health Organization** (WHO) and the **World Meteorological Organization** (WMO) participate in the co-operative arrangements described in this Joint Plan.

1.4. Authorities for the Joint Plan

Each participating organization has various statutory and other legally assigned functions. Appendix A of this Joint Plan lists the various legal instruments, resolutions of the UN General Assembly, regulations, standards and inter-organizational agreements that together provide the authorities for these organizations and the Joint Plan. Specific decisions of executive bodies and/or specific regulations are also referred to in the text as appropriate.

1.5. Relationship to other plans

The Joint Plan is intended to reflect the arrangements of the participating organizations, and be in harmony with their specific plans and procedures and in accordance with their respective statutes, mandates and obligations. The Joint Plan does not prejudice nor replaces any emergency response arrangements of participating organizations (or States), nor does the Joint Plan prejudice the respective roles and

[7] Particularly those not participating in the Joint Plan.

responsibilities of the participating organizations as they may be specified by relevant instruments of the respective organizations. However, other international organizations (and States) are encouraged to consider this inter-agency framework in the context of their own emergency management plans, where applicable.

1.6. Joint Plan availability

The Joint Plan is formally made available to all participating organizations in parallel with the IAEA's Operations Manual for Incident and Emergency Communication (IEComm). Although a controlled distribution list is maintained for hard copies of the Joint Plan and for any amendments, it is not restricted in its availability.

The electronic version of the Joint Plan is available on the IAEA's public web site at

http://www-pub.iaea.org/books/IAEABooks/Series/124/Emergency-Preparedness-and-Response.

Section 2

2. PLANNING BASIS

2.1. Hazard identification and vulnerabilities

Throughout the world, but particularly in technologically advanced countries, there are a large number of nuclear installations, the regulatory bodies for which require the development and maintenance of site specific emergency preparedness and response plans. There are also many other types of *facilities and activities* that involve radiation or radioactive material used for agricultural, industrial, medical, scientific and other purposes. Such facilities and activities include, for example, the production, use, import and export of radiation sources; the transport of radioactive material; the decommissioning of facilities; or satellites carrying radioactive material.

2.1.1. Emergencies specific to nuclear installations

Although the probability of emergencies at nuclear installations[8] is low, if such emergencies do occur at installations of certain types, then precautionary/urgent protective actions may need to be taken near the site (including in any neighbouring State if the border is close). Regulatory authorities require the licensee to have detailed emergency response arrangements for these installations, including an emergency classification scheme to initiate relevant response operations both on and off the site according to the emergency class. If there is a release of radioactive material[9] that could lead to an actual, potential or perceived emergency, there will be a need to monitor radiation and contamination levels out to greater distances in order to review any initial protective actions and consider more extensive agricultural countermeasures. Other States may need access to technical and administrative information to enable them to provide advice and other protective actions on trade and travel for their domestic population and nationals abroad. Even for emergencies without significant radiological releases, there may be considerable public anxiety, and competent authorities in other States might be expected to provide detailed information to their government/public regarding the status and nature of the emergency.

2.1.2. Emergencies not specific to nuclear installations

For certain types of reactors or fuel cycle facilities (such as some research reactors or critical assemblies) as well as other facilities involving radiation or radioactive material (such as radiopharmaceutical manufacturing facilities, hospitals, research laboratories, industrial irradiators)[10], and for certain types of emergencies at large nuclear installations, the radiological consequences of an event will always be localized (for example, radioactive spills, fuel handling emergencies, loss of shielding or loss of control for a large gamma emitter). Other radiological emergencies can occur when,

[8] This relates to facilities in threat categories I and II as defined in Table I of IAEA GS-R-2 Requirements.
[9] Accidental or deliberate.
[10] This relates to threat category III as defined in IAEA GS-R-2 Requirements.

for example, an uncontrolled radiation source (a so-called 'orphan' source) or radioactive contamination appears in the human environment; an emergency leads or may lead to a release of radioactive material to the environment (e.g. radiological dispersion or exposure device), exposing people; an accident during transport of radioactive material occurs; or a space object containing radioactive material re-entering the atmosphere.

Although emergencies such as these would be expected to affect few people, they are more likely than a major release from a nuclear installation, and the impact on people and the environment, although generally local in extent, may still be serious.

2.1.3. Emergencies triggered by nuclear security event

Radiation emergencies may be also triggered by nuclear security event that includes events that are criminal or intentional unauthorized act and unauthorized acts involving or directed at nuclear material, other radioactive material, associated facilities and activities. Examples of such events include sabotage, a radiological dispersal device or radiological exposure device etc. and threat thereof.

2.1.4. Unconfirmed radiation emergencies

Situations may occur that might indicate a possible radiation emergency, for example, the appearance of traces of radionuclides in the air, food or other commodities, or an unsubstantiated rumour. Competent authorities in States and participating organizations may need rapid confirmation or investigation of such situations to avoid spreading of rumours.

2.2. Roles and responsibilities

2.2.1. National responsibilities

The Joint Plan is based on the fundamental precept that States have the ultimate responsibility to protect life, health, property, the environment and quality of life on their territories according to their national legislation, and takes account of their rights and duties under international law. Bilateral or multilateral agreements, or where appropriate a combination of these, between States for preventing or mitigating the consequences are a useful support to these responsibilities.

2.2.2. International responsibilities

The roles and responsibilities of the participating organisations are carried out according to their various statutory and legally assigned functions (Appendix A) in a spirit of co-operation. In addition, a summary of the response tasks of the participating organizations are given in Table 1. More details on the authorities, responsibilities, functions and capabilities maintained to meet these responsibilities are described in Appendix B.

2.2.3. Responsibilities for notification and assistance

Under Article 2, States Parties to the Early Notification Convention forthwith notify States that may be affected and the IAEA of a release that could be of radiological safety significance for another State and provide relevant information to minimize the consequences. The IAEA forthwith informs States Party, IAEA Member States, other States that may be affected and participating organizations of the notification and information received.

TABLE 1: Tasks and responsible participating organizations[11]

Tasks	Responsible Organization
Key tasks in **pre-emergency phase**	
To gather information from open sources	IAEA, WHO, PAHO
To receive and assess information/notification from States	IAEA, WHO, PAHO
To gather real-time radionuclide and noble gas monitoring data	CTBTO
Critical response tasks in emergency phase	
Initial response	
To notify or inform forthwith States and participating organizations	IAEA
To offer good offices	IAEA
To activate inter-agency emergency response	IAEA
To inform about atmospheric releases of radioactive materials	
- aircraft in flight and/or international aerodromes concerned	ICAO, WMO
- vessels at sea or in port through NAVAREA Coordinators	IMO
Exchange of information	
To assess potential radiological consequences and likely emergency progressions	IAEA
To disseminate promptly any substantive information	IAEA
To facilitate exchange of international criminal intelligence	INTERPOL, EUROPOL
To provide real-time radionuclide and noble gas monitoring data including confirmation of no detection	CTBTO
To assess the effects of radiation exposure on the movement of passengers and/or cargo through international aerodromes and/or seaports and **disseminate promptly** substantive information	ICAO, IMO, WHO, IAEA
To inform ECURIE member states on the basis of ECURIE arrangements	EC
Coordination	
To co-ordinate	
- inter-agency response to a radiation emergency	IAEA
- overall inter-agency humanitarian response to disasters or complex emergencies	OCHA
- provision of international humanitarian assistance at the request of the affected State	OCHA, EADRCC
- medical and public health related surveillance, risk assessment and response	WHO, PAHO
- activation of the IACRNE ad-hoc Working Group on Air and Maritime Transportation	ICAO
Advice or assistance (on request directly from a State or through participating organization)	
To send request for advice or assistance to relevant participating organizations	IAEA
To arrange for advice or assistance on	
- assessment of facility conditions and accident mitigation	IAEA
- assessment of radiological consequences, of potential radiological hazards and of consequences of an emergency	IAEA
- protective actions and other response actions for public, workers and emergency workers	IAEA
- meteorological information (observations, forecasts, and warnings)	WMO
- atmospheric transport and dispersion predictions	WMO, CTBTO
- physical dosimetric measurement services	IAEA
- radiological assessment and application of international standards	IAEA
- radiation protection support, personnel and equipment for operations in affected areas	IAEA
- public health surveillance, risk assessment and interventions to protect human health (food and drinking water restrictions, access and acquisition of pharmaceuticals)	FAO, WHO, PAHO
- biological dosimetry	WHO, PAHO, IAEA
- diagnosis and treatment of radiation casualties and internal contamination	WHO, PAHO, IAEA
- mitigation of mental health impact	WHO, PAHO
- agricultural countermeasures and remediation strategies	FAO
- environmental monitoring and sampling programmes for interventions related to food and assessment of long term impact	IAEA, FAO, UNEP
- implementation and enforcement of control measures for imported and exported food/feed	FAO
- control of food and feeding stuffs	FAO, WHO, PAHO
- re-establishing disrupted police services	INTERPOL

[11] Based on Appendix B.

Tasks	Responsible Organization
- relocation	IAEA, UNEP
- decontamination, waste management	IAEA
- response to a vessel involved or affected at sea or in port	IMO
- response of flight crews and civil aviation authorities, including aerodrome authorities	ICAO, WHO, PAHO
Public information	
To check for the consistency and complementarity of information available on participating organizations' public web sites	OECD/NEA
To confer and agree, to the extent possible, on the consistency of any media releases, including those pertaining to air and maritime transportation	Relevant organizations, ICAO
To produce situation reports in the case of a disaster or complex emergency	OCHA
To produce humanitarian key messages for the humanitarian community	OCHA
Key tasks in **post-emergency (long-term) phase**	
To comprehensively assess radiological consequences	IAEA
To assist in recovery and remediation	IAEA
To assess and manage public health risks	WHO, PAHO
To advise on long term follow-up programs and health surveillance of affected population	WHO, PAHO
To provide results on radionuclide air concentrations from global monitoring network	CTBTO
To assess the levels, effects and risks of the radiation exposure and disseminate findings to the UN General Assembly, the scientific community and the public	UNSCEAR
Event Investigation	
To advise or assist in investigation of crimes	INTERPOL, EUROPOL
To advise or assist in seeking international suspects	INTERPOL

States Parties to the Assistance Convention (Article 2) and/or IAEA Member States may request assistance from other States Parties directly or through the IAEA, and from the IAEA, or where appropriate from other international organizations. Furthermore, the IAEA Board of Governors[12] has authorized the IAEA to respond to requests for emergency assistance from a State that is neither Party to the Assistance Convention nor a Member State of the IAEA. A State may also request that the IAEA co-ordinate at the international level assistance that may become available. These articles place an important responsibility on the IAEA as a focal point for the response coordination.

2.3. Response objectives

The objective of the joint emergency response of the participating international organizations, in the context of this Joint Plan, is to provide a co-ordinated, appropriate and timely response to a radiation incident or emergency that has actual, potential or perceived radiological consequences in order to minimize the adverse consequences to people, property and the environment, and to lay the foundations for an effective recovery.

2.4. Co-ordination of inter-agency response

In order to maximize effectiveness of the inter-agency response, the participating organizations need to co-ordinate their response arrangements and actions among

[12] GOV/1999/15: Financing of the discharge of Agency obligations under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, including the provision of assistance by the Agency in the event of a Nuclear Accident or Radiological Emergency.

themselves and with the relevant competent authorities, ensuring clear lines of responsibility and authority in accordance with their respective statutes, mandates and obligations[13].

The objectives of co-ordination of the inter-agency response are:

- To make the most efficient use of each organization's capabilities in the context of existing agreements and mandates;
- To make the most efficient use of the States' capabilities with respect to coordination with the international organisations;
- To exchange information in order to facilitate a full and common understanding of the situation, its consequences, and the way it is expected to develop;
- To foster a common and harmonized approach, respecting individual mandates, on developing emergency related advice requested by States and on statements to the media and the public;
- To exchange information regarding actions taken or information released, as appropriate;
- To promote the efficient and coordinated provision of assistance to States in accordance with respective mandates, and to avoid duplication of effort, since several organizations may be approached with the same request;
- To facilitate ad hoc arrangements on the division of work among international organizations, which may be needed in a radiation emergency.

The organizations will co-operate using the structure outlined in Figure 1 in order to achieve these objectives.

Further to the framework illustrated within Figure 1, the IACRNE ad-hoc Working Group on Air and Maritime Transportation facilitates coordinated and consistent response amongst concerned international organizations and trade associations in the event of a radiation incident or emergency that is having or that is perceived to have an impact on the international air and/or maritime navigation.

2.5. Financing

The cost of each organization's participation in support of this Joint Plan is the sole responsibility of that organization, unless other agreements or mechanisms exist.

2.6. Guiding principles

Emergency response and preparedness actions undertaken by the participating organizations are carried out in a manner consistent with their statutory roles and

[13] Co-ordination is also needed in preparedness, in particular with respect to the organization, preparation, conduct and evaluation of international exercises, to facilitate an effective, prompt and appropriate response in a real event.

responsibilities, and should support the stated purposes of the relevant international conventions, and other international legal instruments, UN General Assembly resolutions and the relevant resolutions of the governing bodies of participating organizations as well as the relevant requirements of international standards, in particular with the IAEA GS-R-2 Requirements. Moreover, the following guiding principles are relevant for coordinating emergency response arrangements among international organizations:

a) An overall co-ordinating authority and structure are identified according to international agreements and rules;

b) The roles and responsibilities of all international organizations are clearly defined and documented;

c) Arrangements in respect of response to a radiation incident or emergency are co-ordinated;

d) Sufficient resources are made available for response and for the development and maintenance of arrangements; and

e) Clear response co-ordination mechanisms and procedures are developed, documented and made available to all participating organizations.

2.7. Concept of operations

The concept of operations recognizes the primary role of national governments for protecting life, property and the environment within their territories and territorial waters, consistent with their obligations under international and domestic law. The concept of operations recognizes the IAEA's role in co-ordinating the response by international organizations to radiation incident or emergencies, OCHA's role in co-ordinating humanitarian response, and WHO's and PAHO's role regarding the public health response.

The level of the response by the participating organizations to a specific emergency will depend on many factors, including the nature and location of the emergency, the impact on or the potential impact on health, property and the environment, the size of any affected area, the level of public interest and the types of activities needed to support States.

In accordance with the relevant conventions, the IAEA has the primary responsibility for triggering the activation of the system and acts as the focal organization for the response coordination. It receives notification of an emergency from a designated competent authority[14] in a State or from another international organization and verifies any unconfirmed reports of an emergency. It establishes primary functional links with the reporting State and any potentially affected States as appropriate, providing direct communication with the respective official national emergency response co-ordinating structures. It also establishes functional links with the relevant international organizations. In accordance with their mandates, these organizations may also have, or establish, relevant links and communications channels with States (including respective national focal points), other organizations or agencies, regional centres and

[14] A contact point that is authorized to issue a notification, advisory, request for assistance or other emergency information as appropriate, and to reply to requests for information or assistance.

programmes that may provide assistance[15, 16, 17]. The general framework is represented in Figure 1.

Depending upon the nature of the event, it can be assumed that certain other international organizations with technical expertise in specific areas related to, or useful for, responding to emergencies, may be contacted.

In the event of a major disaster or complex emergency associated with radiation hazards the functions and responsibilities of this Joint Plan remain the same.

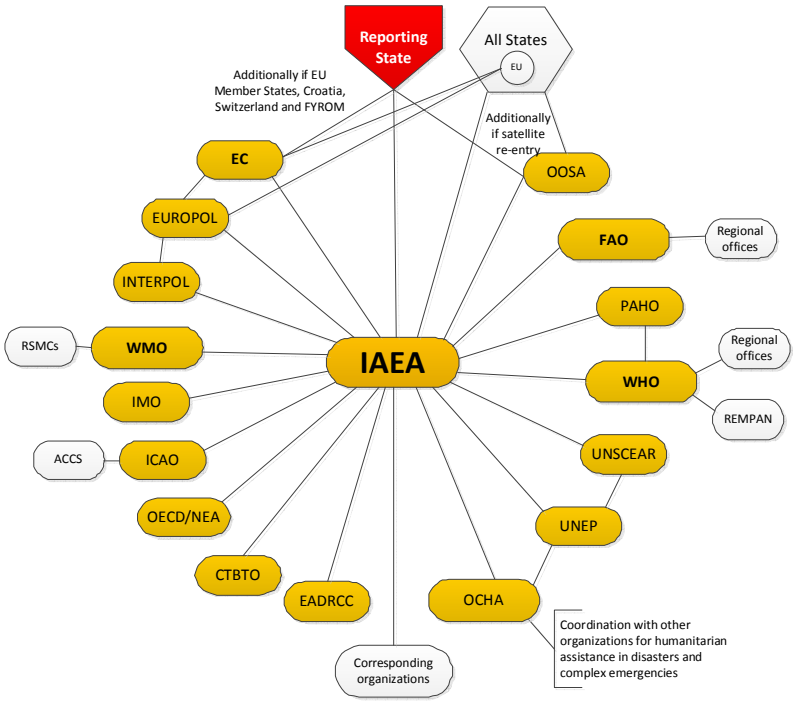

Figure 1: Framework for the inter-agency response coordination to radiation incidents or emergencies. Each international organization may have links with the relevant authorities in its own Member States for performing its usual functions.

2.7.1. Emergency information exchange

States and/or international organizations inform the IAEA about actual or potential radiation incident or emergencies either as the explicit **obligation** to do so under international treaties, **expectation** according to international safety standards, or on a **voluntary** basis. The purpose is, inter alia: 1) to provide relevant information about radiation emergency as early as possible in order that transboundary radiological consequences can be minimized; 2) to pre-empt legitimate requests from States for 'assistance' in obtaining information; 3) to trigger the IAEA to offer its good offices; 4) to provide advance warning to the IAEA, other organizations and States of a developing situation so that they can be ready to respond should the situation worsen;

[15] The IACRNE Working Group on Air and Maritime Transportation is an agreement between relevant international organizations and trade association to coordinate a collaborative response from the transport sector (specifically international air navigation and international maritime navigation) in the event of a radiation incident or emergency.

[16] Under the IHR (2005), there are National IHR Focal Points in 194 States Parties with extensive binding obligations concerning reporting or verifying certain public health events to WHO, coordination with other governmental sectors, and additional public health issues.

[17] Europol and INTERPOL have an operational agreement that provides for the exchange of criminal intelligence. Within the framework of this agreement, both agencies have placed Liaison Officers at their respective counterpart's Headquarters to facilitate and support the information flow between the two organizations and to encourage cooperation.

5) for the IAEA, other international organizations and States to initiate a response and/or to provide advice to the public or media on a developing situation of actual, potential or perceived radiological significance; 6) to otherwise alert IAEA's emergency response staff.

The IAEA expects to receive an initial message from a competent authority informing it about a radiation incident or emergency at one of two levels of formality, namely a 'notification' or an 'advisory':

1. **Notification**: A message submitted to a national authority or international organization by an authorized competent authority under international treaty or according to international safety standards providing details of an emergency or a potential emergency.
2. **Advisory**: A message submitted to a national authority or international organization by an authorized competent authority providing details of an actual, potential or perceived radiation incident or emergency, without the explicit obligation or expectation to do so under international treaty or according to international safety standards.

The concept of operations for initial notification or advisory is illustrated in Figure 2. The reporting State sends an initial notification or advisory message to the IAEA (e.g. Incident and Emergency Centre – IEC) indicating the date/time, location and nature of the incident or emergency (normally expected to include an emergency class and/or conditions). The IAEA's IEC authenticates/verifies the message with the competent authority of the State that issued it, and takes appropriate actions.

If the incident or emergency takes place in the territory of any of the Member States of the European Union, Croatia, Former Yugoslav Republic of Macedonia or Switzerland, or if any of these States may be affected by an emergency, those States will additionally notify the European Commission. The EC then activates its Urgent Radiological Information Exchange system (ECURIE) to authenticate the message and retransmit it, and any subsequent information, to the designated contact points[18] in each Member State of the European Union, Croatia, Former Yugoslav Republic of Macedonia and Switzerland.

In the case of re-entry or possible re-entry of a satellite or other space object with nuclear power sources[19] on board, the launching State[20] of the satellite or space object additionally transmits notifications to other concerned States and the OOSA[21].

If an international organization becomes aware of a possible radiation incident or emergency[22] for which the IAEA's IEC has not provided any official information, it informs the IAEA's IEC respecting aspects of confidentiality. If appropriate, the IAEA's IEC verifies the report with the relevant competent authorities or international organizations and requests an appropriate notification or advisory message. If the

[18] A generic term for an organization, designated by a State or an international organization that has a role to play in international exchange of information in response to a nuclear or radiological emergency.
[19] Including nuclear reactors and radioisotope thermal generators.
[20] Principles Relevant to the Use of Nuclear Power Sources in Outer Space (General Assembly resolution 47/68 of 14 December 1992. For the purpose of the Principles, the "launching State" is the State that exercises jurisdiction and control over a space object with nuclear power sources on board at a given point in time.
[21] Ibid., Principle 5.
[22] For example the National IHR Focal Points in the 194 States Parties have binding obligations concerning reporting or verifying certain public health events to WHO.

information cannot be substantiated, the IAEA's IEC reports this to the original reporter. With the aim of limiting and correcting the spread of false information, the IAEA's IEC may: inform States; post information on the IAEA's emergency web site[23]; and/or, in co-ordination with the relevant States and international organizations as appropriate, publish information on www.IAEA.org[24] and/or issue a press release to the media.

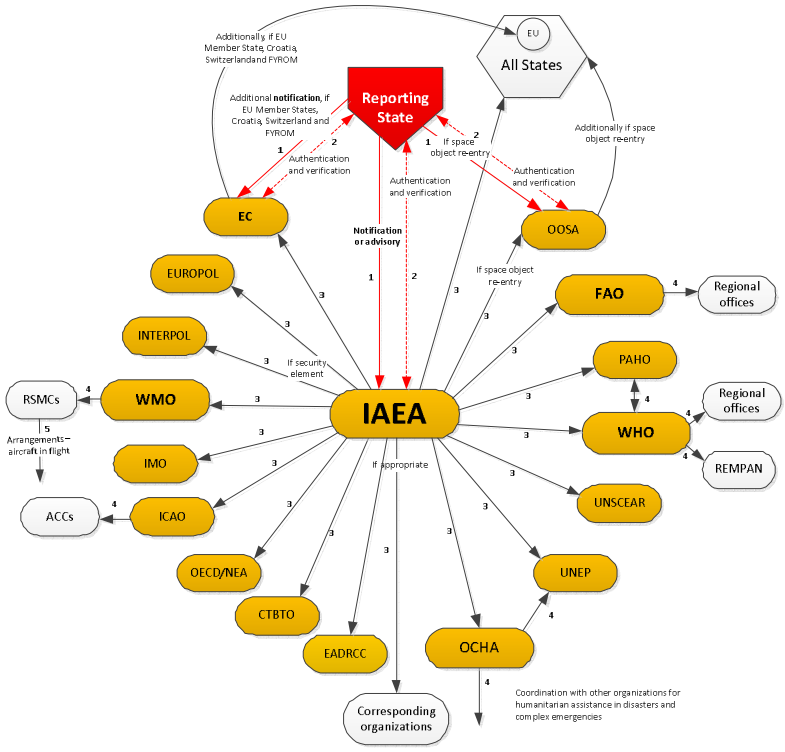

Figure 2: Concept of operations for initial notification or advisory of a radiation incident or emergency. Numbers indicate the order in which information will be cascaded. In addition to the processes shown here, the notifying State is normally expected to notify affected States directly. Note also that in practice, information is disseminated from Regional Specialized Meteorological Centres (RSMCs) to Meteorological Watch Offices (MWOs) through National Meteorological Centres (NMCs).

Figure 3 provides a concept of operations for information exchange over protected web sites. Further to the initial notification, the reporting State may submit additional information to the IAEA's IEC, which rapidly authenticates the source, reviews the information to ensure it is clear and not obviously in error and, respecting any confidentiality constraints: 1) provides information to States and/or relevant international organizations; and 2) posts the information as appropriate on the IAEA's emergency web site.

States or international organizations may request support from the IAEA's IEC to obtain information. If it is available, the IAEA's IEC will provide the information, respecting confidentiality constraints. If not, it requests the reporting State or other State or international organization to provide it. The international organizations respond in a timely manner to the request and provide the information to the IAEA's IEC. Respecting any confidentiality constraints, the IAEA's IEC 1) provides the information as appropriate to the requesting State; and/or 2) posts the information as

[23] The IAEA's "Unified System for Information Exchange in Incidents and Emergencies (USIE)" protected web site.
[24] IAEA.ORG is the IAEA public site on the World Wide Web.

appropriate on the IAEA's emergency web site (USIE), and/or 3) establishes hyperlinks to the relevant party's web site.

Unless information has been provided on a confidential basis, or if the IAEA judges that it is not prudent to release information, the IAEA may extract relevant official information submitted to it and post it on the www.IAEA.org public web site (see Section 3.4 Public Information). The IAEA's emergency web site provides hyperlinks to the IAEA public web site and to other relevant web sites.

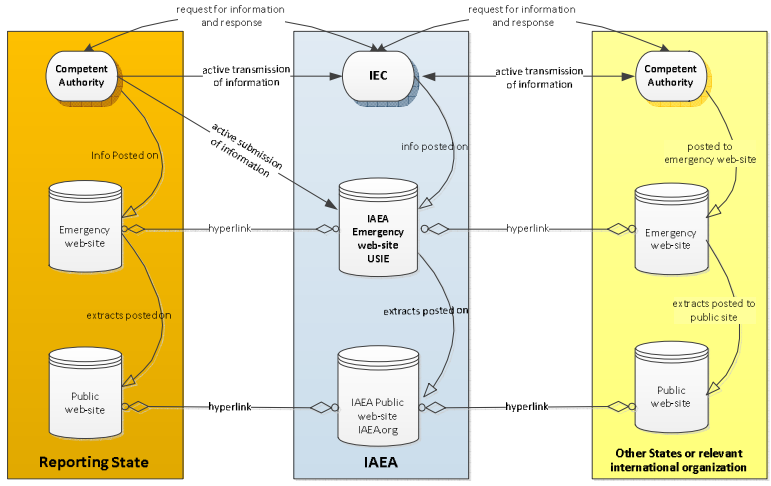

Figure 3. Concept of operations for emergency information exchange.

NOTE

International organizations should clearly mark information as to whether 1) it is **for the receiving organization's use only**; 2) it is **for use by relevant authorities only**; or 3) it is **for general use** and if so, after what delay, if any. In general, information that is needed to mitigate the consequences of the emergency in other States should not be confidential, but, for example, information on patients and the exact location of found dangerous sources will normally only be provided on a strict need-to-know basis.

2.7.2. International assistance

If a State requests assistance from the IAEA under the Assistance Convention the provision of assistance will follow the IAEA's Response and Assistance Network (RANET) process: the IAEA's IEC 1) informs States and international organizations that could provide assistance; 2) evaluates the situation in coordination with relevant international organizations, and may, in agreement with the requesting State, dispatch an initial assessment (fact-finding) team; 3) develops, in coordination with the requesting State and assisting parties, a detailed assistance action plan and (4) upon acceptance of the plan by all involved parties, obtains authorization for deployment of resources from assisting competent authorities and international organizations.

Section 3

3. EMERGENCY RESPONSE

3.1. Event classification

Any radiation incident or emergency requires effective response commensurate with the level of actual, potential or perceived hazard. This can be accomplished through the adoption of an event/emergency classification composed of sets of conditions that trigger a certain level of response.

The emergency classification adopted for the purpose of this Joint Plan and the IEComm (Table 2) is in line with the IAEA GS-R-2 Requirements and addresses events specific to nuclear installations as well as all other events that warrant response.

Table 2: Classification of radiation events

General emergency	Events resulting in an actual or substantial risk of a release or radiation exposure warranting taking urgent protective actions off the site
Site area emergency	Events resulting in a major decrease in the level of protection for those on the site and near the facility but not sufficient to meet criteria for 'general emergency'
Facility emergency	Events resulting in a major decrease in the level of protection for people on the site; cannot give rise to an off-site hazard
Alert	Events resulting in an uncertain or significant decrease in the level of protection for the public or individuals on the site
Other event	Other event in nuclear installations that may trigger public concerns and or media interest
Radiological emergency	Any event which is of actual, potential or perceived radiological significance and is not nuclear incident or emergency

3.2. Emergency communications

3.2.1. Communication channels

Communication channels[25] include electronic mail, telephone, facsimile, videoconferencing and web sites including IAEA's emergency web site. They are used:

- For sending a notification or requests for assistance to and from the IAEA's IEC;
- For sending advisory messages or additional information to and from the IAEA's IEC; and
- For communication amongst and between participating organizations and their respective contact points.

[25] For details see IEComm manual.

Generic and non-personal contact details should be provided and maintained by all participating organizations as part of emergency preparedness.

3.2.2. Videoconferencing

The IAEA's IEC[26] may hold IACRNE coordination meeting(s)[27]. The objectives of coordination meeting(s) may include:

1) To share technical information about the emergency, assessment of its actual or potential consequences, prognosis of its likely progression and actions taken or planned;

2) To coordinate activities to avoid duplication of efforts, critical gaps and any inconsistences;

3) To coordinate and consult regarding public information activities (media releases, public web sites, social media, situation reports, etc.) and joint press statement(s) to achieve a consistent message for the public as well as for different technical communities.

The IACRNE Secretary prepares meeting minutes for each coordination meeting summarizing discussions and recording conclusions made and distributes to all IACRNE members for comments. Agreed meeting minutes are then posted to IACRNE website.

3.2.3. Communicating with the IAEA

The IAEA's IEC, when activated, maintains a dedicated telephone line for communication with other international organizations. A liaison officer is available for any communication between the IAEA's IEC and the international organizations.

International organizations should:

- Consult the IAEA emergency web site[28] to obtain information on any radiation incident or emergency[29]. If the information is not available on IAEA emergency web site, request information from the IAEA's IEC using emergency contact details[30].

- Be ready to receive and process requests for information or assistance from the IAEA's IEC. Send any confidential information as a separate message clearly marked 'FOR IAEA SECRETARIAT USE ONLY'.

- Send copies of official statements on the event made by the organization to the IAEA's IEC by fax or email.

[26] That would usually be IACRNE Secretary.
[27] Videoconferencing contact details of each participating organization are available on the IAEA emergency web site. Do not use videoconferencing to request immediate verification of unconfirmed information or to request emergency information/advice.
[28] https://iec.iaea.org/usie
[29] As part of preparedness have response staff registered on IAEA emergency web site (USIE). Make staff familiar with the IEComm manual and EMERCON forms.
[30] Address book is available on IAEA emergency web site.

3.2.4. On-going liaison

In case of a radiation emergency of such a magnitude that the response of international organizations continues for several days or weeks and significant technical coordination is required, each relevant participating organization will consider sending a liaison officer to the IAEA headquarters in Vienna to facilitate coordination. If such an emergency requires the mobilization of major resources for humanitarian relief, the IAEA will consider sending a liaison officer to OCHA to provide technical advice for the humanitarian relief efforts.

3.3. Provision of advice and assistance

Participating organizations follow their own procedures when rendering specific assistance directly to the requesting State[31]. Provision of advice or assistance through the IAEA follows the IAEA's Response and Assistance Network process.

3.3.1. Provision of technical advice

If, following a request by a State for advice of any participating organization, and the subject matter of the advice requested involves the competence of more than one organization, the organizations, to the extent possible, confer and agree on the advice to be provided. Technical advice will, to the extent possible, be in accordance with international standards and practise[32].

Respecting any confidentiality constraints, copies of any authoritative technical advice should be sent to the IAEA's IEC for possible posting on IAEA's emergency web site, or for establishing a hyperlink in IAEA's emergency web site to the organization's web site.

3.3.2. Provision of assistance

Any participating organization that receives a request for assistance in response to a radiation incident or emergency will inform the IAEA and other relevant participating organizations of such a request and co-ordinate the provision of such requested assistance with those organizations, as appropriate, according to their respective roles. Those organizations with regional structures will ensure that other relevant organizations are consulted, as appropriate, regarding any assistance to be provided through their regional and/or country offices, including UNDP.

Without prejudice to the rights and obligations of the participating organisations, if a State requests assistance from or through the IAEA under the Assistance Convention:

1) The IAEA's IEC informs participating organizations that may be able to provide assistance and co-ordinates the resources to be allocated.

2) The IAEA's IEC evaluates the situation and, in co-ordination with relevant participating organizations, provides initial advice to requesting State.

3) The IAEA's IEC may send, following RANET mechanism, an initial assistance team consisting of technical staff member(s) and/or qualified expert(s) according to the scope of the mission agreed with the requesting State. The scope prescribes

[31] Such procedures should include informing the IAEA about the advice and assistance requested and/or provided.

[32] A list of relevant documents that can serve as input for the provision of technical advice during an emergency may be found in Appendix D.

the objectives of the initial assistance mission (to include evaluation of the situation and advice on additional actions needed including resources from States Parties to the Assistance Convention or those of other relevant participating organizations), team leadership, communication protocols, media arrangements, etc.

4) If additional actions are needed, the IAEA's IEC develops[33], in co-ordination with assisting States and relevant participating organizations, an assistance action plan including all technical, financial, legal, diplomatic, organizational and logistic aspects, mission objectives, team leadership, communication protocols, media arrangements, etc. Upon acceptance of the assistance action plan by all involved parties, the provision of assistance is implemented. If needed, additional resources may be placed on standby.

5) Upon termination of assistance resources are demobilized.

The requesting State is responsible for the overall direction, support, and supervision of any assistance within its territory.

3.4. Public information

Any public information, including media releases, interviews, social media and situation reports, issued by participating organizations will be factual and based on the role and responsibilities of and actions taken by the organization. Where the subject matter of the media release, interviews, social media or reports involves the competence of more than one organization, the organizations coordinate, consult with each other and reach joint agreement, in a timely manner and to the extent possible, on the content or ensure that respective media releases contain consistent messaging and information. Should this not be possible, the organizations should limit their public information to their own area of competence.

Any assisting organization will make every effort to obtain clearance with a requesting State or organization before releasing information to the media/public on the assistance provided (in connection with a radiation incident or emergency). Web addresses or copies of any releases/reports should be provided to the IAEA for posting on IAEA's emergency web site, or for establishing a hyperlink in IAEA's emergency web site to the organization's web site.

The IACRNE maintains a list of public information officers (PIOs) contact details in all participating international organizations.

3.5. Emergency deactivation

States have the responsibility for determining when an emergency situation has been terminated at the national level. With respect to the IAEA, when the emergency is deemed under control and has been stabilized, the IAEA's IEC informs those contact points that have been activated that the IEC is deactivating, and posts the status of the IEC on the IAEA's emergency web site. Other organisations will deactivate according to their appropriate criteria, and prepare for any on-going activities as part of long-term recovery.

[33] Following RANET process.

3.6. Post-emergency follow-up

At the request of one of the participating organizations, the IACRNE Secretary consults with other participating organizations with a view to convening one or more special IACRNE meetings. The objectives of such meetings will include the following:

a) To share technical information on consequences and actions taken or planned in this regard;

b) To coordinate follow-up activities of the participating organizations (consistent with their mandates) to avoid critical gaps, duplication of efforts and inconsistencies;

c) To analyse and document lessons identified in the emergency response, and to plan and implement actions to systematically address these lessons in the context of the Joint Plan.

3.7. Participating organizations' response actions

Six sets of emergency conditions are used to describe various events or situations that warrant response actions under this Joint Plan.

Major response actions that are expected from participating organizations in each emergency class are described in the following tables. Actions are grouped under:

- Initial notification/advisory message;
- Information exchange;
- Provision of advice or assistance; and
- Public information.

In case the emergency is triggered by a nuclear security event(s) additional major response actions are grouped under "Additional Response Actions" at the end of this section.

Emergency Class: GENERAL EMERGENCY	
Description:	An actual or substantial risk of a release of radionuclides into the environment or radiation exposure to the public warranting taking urgent protective actions off the site. This includes: actual or projected severe core damage; potential for doses off the site warranting implementation of urgent protective measures, or nuclear security event resulting in an inability to monitor or control critical safety functions needed to protect the core of a nuclear reactor or large amounts of spent fuel, or needed to prevent an unplanned criticality that could expose people off the site.
Obligation:	If a release of radioactive material occurs or is likely to occur and results or may result in a transnational emergency, States Parties to the Early Notification Convention **are obliged to forthwith notify** potentially affected States and the IAEA, **provide relevant information** and **respond to requests for information** from affected States.
Expectation:	States, in order to meet the IAEA GS-R-2 Requirements, are **expected to notify**, **provide relevant information** and **respond to requests for information** concerning 'general emergency'.
Voluntary action:	NA
Recommendation:	States should comply with response time objectives set out in IAEA Safety Guide No. GS-G-2.1

3

Emergency Class: GENERAL EMERGENCY	
Response actions	
Initial notification	
IAEA	- Authenticates initial notification and verifies the content with the notifying State - Offers good offices to the notifying State - Establishes 24/7 response mode and dedicated communication lines including phone, fax and email with the notifying State (full response mode) - Establishes liaison with the notifying State - Forthwith informs States that may be physically affected and all international organizations - Publishes initial notification on IAEA's emergency web site, including any attachments and/or links to the notifying State's web site - Sends copy of the initial notification by fax to all States - Sends email to Zone 1 States[34], and to relevant international organizations requesting them to access IAEA's emergency web site and confirm receipt of the notification - Calls Zone 1 States, and international organizations that have not confirmed receipt of the notification on IAEA's emergency web site - Establishes phone liaison with the Zone 1 States - Establishes phone liaison with other States (Zone 2 States) and relevant international organizations
EADRC	- Promptly forwards initial notification received from IAEA to Civil protection organizations in allied and partner countries by e-mail - Appoints a Duty Officer to handle related communications on a 24/7 basis
EC	- Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system. - Activates an Emergency team to handle related communications on a 24/7 basis - Contacts any ECURIE Member State who has not responded via the website within one hour of callout. - Requests EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC[35] technical support arrangements
EUROPOL	- May be put on standby in case of actual or suspected nuclear security event
FAO	- Assigns liaison officers (AGE) to the IAEA's IEC in Vienna - Nuclear Emergency Crisis Network of Technical Experts (ECN) is put on standby - Assesses initial impact on food production and distribution systems, including potential measures to restrict food consumption
INTERPOL	- May be put on standby in case of actual or suspected nuclear security event
IMO	- May be put on standby if impacts/contamination to vessels at sea or in ports is possible

[34] States within 1000 km from the NPP or 50 km from the research reactor that declared 'general emergency'.
[35] RESPEC is a contractual arrangement between the EC and another competent party to provide information and services to the Commission in the event of a radiological emergency, see Glossary.

Emergency Class: GENERAL EMERGENCY	
Response actions	
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsAlerts all organizational levels, relevant staff, and regional expert networksActivates the Institutional Response Plan
OCHA	- Places on standby to mobilises its emergency tools and services in case of a natural disaster or complex emergency where humanitarian assistance is envisaged
WHO	- Activates WHO emergency response plan; alerts IHR National Focal Points, WHO Regional and Country offices, puts the relevant expert networks on standbyGathers additional information to initially assesses potential public health implicationsAssigns a Liaison Officer to the IAEA's IEC and considers and plans for additional steps as appropriate, including fulfilment of the notification requirements under IHR provisions and dissemination of information to States Parties
WMO	- Activates, and retransmits[36] initial notification received from the IAEA to all State NMHSs
ICAO	- May be put on standby and may activate the IACRNE ad-hoc Working Group on Air and Maritime Transportation if significant atmospheric radioactive release is projected or envisaged to impact international air navigation and/or international maritime navigation
Further information from the notifying State	
IAEA	- Authenticates the message and verifies the content with the notifying State - Publishes further information on IAEA's emergency web site, including any attachments and/or links to notifying State's own web site - Distributes further information by fax - Compiles and analyses information, assesses potential radiological consequences and anticipates possible event progression; advises States and international organizations
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
FAO	- Assumes contact with the relevant FAO Representative if there is one in the country, and passes on any relevant information to AGE - May request the notifying State to provide information on food production and distribution systems and consumption restrictions in areas affected by the emergency
PAHO	- Continues maintaining communication throughout the organizational levels and with national authorities, including through IHR channels
WHO	- Contacts with National IHR Focal Point in the affected State PartyContinues close liaison between HQ, Regional and Country offices involvedEnsures timely receipt of adequate information for public health risk assessment and assessment of assistance needs, when requestedConsiders dissemination of information as appropriate to States Parties and others, including on WHO secure websites - Event Information Site (EIS) and Event Management Site (EMS) - Continues public health surveillance and risk assessment-
WMO	- Retransmits[36] relevant information received from the IAEA's IEC to all NMHSs
Further notification in case of radioactive release in the environment (or change in emergency classification)	
IAEA	- Authenticates notification and verifies the content with the notifying State - May request the notifying State to provide more information - Publishes notification message on IAEA's emergency web site, including any attachments and/or links to the notifying State's web site - Sends copy of the notification message by fax to all States and international organizations - Sends email to Zone 1 States, and to international organizations requesting them to access IAEA's emergency web site and confirm receipt of notification - Calls Zone 1 States, and international organizations that have not confirmed receipt of notification on IAEA's emergency web site - Offers its good offices to States that may be physically affected
EADRC	- May advise allied and partner countries to verify information provided in the *CBRN Inventory* and to raise readiness levels of assets and capabilities for radiological emergency response
EC	- Ensures the availability of WebECURIE where the notifying state can place all further information on the national and event status board - May issue an ADVISORY to draw attention to important new information regarding the emergency - May activate ENSEMBLE arrangements and inform ECURIE Member States where atmospheric dispersion predictions may be found (URL)

[36] As a backup to the IAEA report of the notification and in order to speedily activate meteorological support.

Emergency Class: GENERAL EMERGENCY	
Response actions	
	- May invoke EU emergency food and feeding stuffs regulations
FAO	- Maintains readiness to support AGE in the early phases if requested - Compiles information on food contamination and publishes information on USIE webpage (if relevant) along with recommendations on management options - May advise Member Countries on the implementation of food inspection and monitoring in food, agriculture, forestry and fisheries - May participate in the response mode and provide technical support to the affected State with emphasis on agricultural countermeasures and protection of the food supply
ICAO	- Based on information received from the responsible WMO RSMC(s) and VAAC London (co-located with WMO RSMC Exeter), to inform/alert aircraft in flight and aerodromes concerned about atmospheric release - Advise aircraft in flight on possible alternate routes - Activate the IACRNE ad-hoc Working Group on Air and Maritime Transportation - Provide advice, on request, to States on the effects of contamination/radiation exposure on airline personnel (including flight crews) and passengers, and the movement of passengers and/or cargo through international aerodromes
IMO	- Inform/alert Member States and NavArea Coordinators of an atmospheric release that may impact vessels at sea or in port - Advise vessels at sea or in port on possible response actions
PAHO	- Continue as above
WHO	- Continue as above - Activate WHO experts networks (REMPAN, BioDoseNet, INFOSAN) as appropriate - Consider deploying liaison officer to IAEA Headquarters
WMO	- Retransmits**Error! Bookmark not defined.** relevant information received from the IAEA's IEC to all NMHSs
Request for information	
IAEA	- May request notifying State to provide more information and/or link to emergency web site - May request information on monitoring results and protective actions from Zone 1 States - May request information from other international organizations
FAO	- May request additional information from IAEA's IEC or State Party affected as necessary for emergency response measures related to food and agriculture
WHO	- May deploy a liaison officer and/or request additional information from IAEA, other international organizations and/or State Party affected as necessary to facilitate IHR notifications and public health response
Other	- May submit requests for information to the IAEA's IEC
IAEA	- Authenticates received messages and verifies the content with the reporting States - Compiles received information on monitoring results and protective actions - Publishes summary on IAEA's emergency web site - Sends summary by fax to all States and relevant international organizations (back up option)
IAEA	- Authenticates and verifies requests for information - Compiles requests for information and forwards them to the relevant States or international organizations - Collates replies and informs requesting contact points - Publishes replies on IAEA's emergency web site if there is a sufficient number of requests for information - Publishes on IAEA's emergency web site an advisory message if there is a need to address rumours - Establish hyperlinks in IAEA's emergency web site to other international organizations emergency web sites providing relevant information
Other	- Inform IAEA's IEC about major response actions
Meteorological products	
IAEA	- Requests and receives meteorological and atmospheric dispersion/transport predictions from the appropriate lead WMO RSMCs; may also request high resolution meteorological and atmospheric dispersion/transport predictions for near field - Sends a copy of the request to other RSMCs and RTH Offenbach - Publishes meteorological products only from WMO Lead RSMCs on IAEA's emergency web site - Distributes products by fax to all States and international organizations (back up option)
WMO Lead RSMCs	- Generate basic products based on IAEA's IEC request parameters, or with default scenario parameters for those that are not provided - When IAEA's IEC requests it, distribute products to designated Operational Contact Points of NMHSs in

Emergency Class: GENERAL EMERGENCY	
Response actions	
	their respective WMO Regions of responsibility, and to WMO Headquarters - Disseminate[37] the information to ICAO meteorological watch offices (MWOs) and world area forecast centres (WAFCs)
WMO RSMCs (non-lead)	- Generate basic products based on IAEA's IEC request parameters, or with default scenario parameters if none are provided - When IAEA's IEC requests it, distribute products to the designated Operational Contact Points of NMHSs in their respective WMO Regions of responsibility, and to WMO Headquarters - Disseminate[37] the information to ICAO meteorological watch offices (MWOs) and world area forecast centres (WAFCs)
Monitoring results	
IAEA	- May request CTBTO to provide monitoring results from its global monitoring network of radionuclide stations - May request States and international organizations to provide their results of environmental monitoring
EC	- Ensures the availability of the latest environmental monitoring data through the EURDEP data exchange platform - Requests EURDEP Member States to put the environmental monitoring systems in Emergency mode
CTBTO	- Provides global monitoring results (radionuclide air concentrations) and related expertise
Request for advice or assistance	
IAEA	- Receives requests for advice or assistance under the Assistance Convention and informs relevant international organizations that may be able to provide assistance and co-ordinates the resources to be allocated - Evaluates the situation and, in co-ordination with the relevant international organizations, provides technical advice to requesting State - May deploy a field response team (fact-finding mission) in agreement with the requesting State - Develops, in co-ordination with the requesting State, assisting States and international organizations, as appropriate, a comprehensive assistance action plan - Co-ordinates the implementation of the assistance action plan and may place on standby additional resources *The provision of international assistance follows the IAEA Response and Assistance Network (RANET) process*
PAHO	- Coordinates with the organizational levels concerned, with relevant WHO major offices, and activate relevant experts regional networks to cater for the needs of the requesting State or partner intergovernmental or international organization
WHO	- Follows the arrangements under IHR and offers technical assistance to the State, keeps IAEA informed - Receives requests for advice or assistance from the accident State and neighbouring countries and coordinates with a relevant IOs, ROs, COs, and WHO expert networks as necessary
OCHA	- Receives request for international humanitarian assistance from affected State
Other	- Informs the IAEA and other international organizations as appropriate about received request for assistance - Co-ordinates the provision of requested assistance with relevant organizations, as appropriate, according to their respective roles[38] *Any assisting organization will make every effort to obtain clearance with a requesting State before releasing information to the media/public on the assistance provided*
Public information	
IAEA	- Publishes notifying State press releases or URL of public web site on IAEA's emergency web site - Establishes liaison with the official media focal points in notifying State and relevant international organizations as appropriate to coordinate release of information to the media - Issues press release(s) and posts on the IAEA's public web site detailing emergency and actions taken
EC	- Prepares a Commission press release and forwards it to the notifying State for information/comment - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements - Makes available impending press release to ECURIE Member States via ECURIE channels - Publishes the final press release after one hour of sending to the notifying State
OCHA	- In the event of a natural disaster or complex emergency, will issue humanitarian messaging, lead advocacy

[37] In practice, this information is disseminated to MWOs through the designated Operational Contact Points of NMHSs and to WAFCs London and Washington through RSMCs Exeter and Washington respectively.
[38] Those organizations with regional structures will ensure that other relevant organizations are consulted regarding any assistance to be provided through their regional offices, including UNDP.

Emergency Class: GENERAL EMERGENCY	
Response actions	
	and produce and coordinated situation reports as required
PAHO	- Prepares postings for the public web site and interacts with the public and the media through additional channels, including social networks
WHO	- Provides information to the States and public via liaising with mass-media, producing press-releases, media statements, briefings, publishing information on WHO official site and using official social media channels detailing potential and actual risks to human health and explaining the undertaken interventions, as the emergency evolves taking all practical steps not to conflict with provided information from other IACRNE members - If necessary, may prepare an independent press-release (limited to the area of WHO's mandate), media statements, FAQs, Fact Sheets, etc. and share the press-release content with the IAEA and other relevant IACRNE members
All	- Whenever possible issue coordinated press-releases/media advisories, or limit those to the areas of their respective mandates[39] - Submit copies of any press releases to the IAEA or send/submit URL of public web site

[39] Such as joint press-releases/media advisories relating to international air navigation and/or international maritime navigation, as coordinated by the IACRNE ad-hoc Working Group on Air and Maritime Transportation

Emergency Class: SITE AREA EMERGENCY	
Description:	A major decrease in the level of radiation protection for those on the site and near the facility but not sufficient to meet criteria for 'general emergency'. This includes: a major decrease in the level of protection provided to the core of a nuclear reactor or large amounts of spent fuel; conditions where any additional failures could result in a 'general emergency'; doses off the site approaching the urgent protective action intervention levels (e.g. from a release, direct exposure, or a criticality); malicious activity with the potential to disrupt performance of critical safety functions or to result in a severe release.
Obligation:	There is **no obligation** on States Parties by virtue of the Early Notification Convention to notify the IAEA or other States of conditions representing a 'site area emergency'.
Expectation:	There is **no specific requirement** under the IAEA GS-R-2 Requirements to report conditions representing a 'site area emergency'.
Voluntary action:	A State may send an **advisory message** to the IEC regarding a 'site area emergency' in order: 1) to pre-empt legitimate requests from other States for 'assistance' in obtaining information; 2) to trigger the IAEA to offer its good offices; 3) to provide advance warning to the IAEA, other relevant organizations or other States of a developing situation so that they can be ready to respond should the situation worsen; 4) for the IAEA, other relevant international organizations, or other States to initiate an administrative response and/or to provide advice to their governments, public or media on a developing situation of actual, potential or perceived radiological significance; 5) to otherwise alert IAEA response staff.
Recommendation:	The IAEA Secretariat **strongly encourages** States to inform the IEC of a 'site area emergency'.

Emergency Class: SITE AREA EMERGENCY	
Response actions	
Initial advisory message	
IAEA	- Authenticates initial notification and verifies the content with the reporting State - Offers good offices to the reporting State - Establishes basic response mode - Establishes liaison with the reporting State - Unless otherwise instructed by the reporting State publishes advisory message on IAEA's emergency web site, including any attachments and/or links to the reporting State's web site - Sends copy of the advisory message by fax to all States and international organizations - Sends email to Zone 1 States[40], and to relevant international organizations requesting them to access IAEA's emergency web site and confirm receipt of the advisory message - Calls Zone 1 States, and international organizations that have not confirmed receipt of the advisory message on IAEA's emergency web site - Establishes phone liaison with the Zone 1 States
EC	- Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system. - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
EUROPOL	- May be put on standby in case of actual or suspected nuclear security event
INTERPOL	- May be put on standby in case of actual or suspected nuclear security event
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsAlerts relevant organizational levels and staff
WHO	- Alerts respective WHO Regional and Country offices and continues monitoring the situation - Disseminates information received from IAEA to States Parties as appropriate
WMO	- Activates, and retransmits[41] initial advisory message received from the IAEA's IEC to all NMHSs
Other	- None
Further information from the reporting State	
IAEA	- Authenticates the message and verifies the content with the reporting State

[40] States within 1000 km from the NPP or 50 km from the research reactor that declared 'site area emergency'.
[41] As a backup and in order to provide rapid meteorological support.

Emergency Class: SITE AREA EMERGENCY	
Response actions	
	- Publishes further information on IAEA's emergency web site, including any attachments and/or links to reporting State's own web site - Distributes further information by fax - Compiles and analyses information, assesses potential radiological consequences and anticipates possible event progression; advises States and international organizations
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
PAHO	- Continues maintaining communication throughout the organizational levels and with national authorities, including through IHR channels
WHO	- Promptly shares the information with the relevant Regional and Country Office - Take additional steps as necessary, according to the IHR notification requirements
WMO	- Retransmits[42] relevant information received from the IAEA to all NMHSs
Request for information	
IAEA	- May request reporting State to provide more information and/or link to emergency web site
Other	- May submit requests for information to the IAEA
IAEA	- Compiles received information from the reporting State - Publishes summary on IAEA's emergency web site - Sends summary by fax to all States and relevant international organizations (back up option)
IAEA	- Authenticate and verifies requests for information - Compiles requests for information and forwards them to the reporting States - Collates replies and informs requesting contact points - Publishes replies on the IAEA's emergency web site if there is a sufficient number of requests for information - Publishes an advisory message on the IAEA's emergency web site if there is a need to counter false rumours
Other	- Inform the IAEA's IEC about any additional information they may be aware of
Request for advice and assistance	
IAEA	- Receives requests for advice or assistance and informs relevant international organizations that may be able to provide assistance - Evaluates the situation and, in co-ordination with the relevant international organizations, provides technical advice to requesting State - May place on standby additional resources - May deploy a fact-finding mission in agreement with the requesting State *The provision of international assistance follows the IAEA Response and Assistance Network (RANET) process*
PAHO	- Coordinates with the organizational levels concerned, with relevant WHO major offices, and activate relevant experts regional networks to cater for the needs of the requesting State or partner intergovernmental or international organization
WHO	- Follows the arrangements under IHR and offers technical assistance to the State, keeps IAEA informed - Receives requests for advice or assistance from the accident State and neighbouring countries and coordinates with a relevant IOs, ROs, COs, and WHO expert networks as necessary
Other	- Informs the IAEA's IEC and other international organizations about received request for advice - Co-ordinates the provision of requested advice with relevant organizations, as appropriate, according to their respective roles
Public information	
IAEA	- Publishes reporting State press releases or URL of public web site on the IAEA's emergency web site - Establishes liaison with the official media focal points in reporting State and relevant international organizations as appropriate to coordinate release of information to the media - Issues press release(s) and posts on the IAEA's public web site detailing emergency and actions taken by and role of the IAEA
EC	- May prepare a Commission press release - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements
PAHO	- Assesses risk communication needs on an ad hoc manner and interact with the public and the media through the channels deemed most appropriate

[42] As a backup and in order to speedily activate meteorological support.

Emergency Class: SITE AREA EMERGENCY	
Response actions	
WHO	- May prepare an independent press-release (limited to the area of WHO's mandate), media statements, FAQs, Fact Sheets, etc. and share the press-release content with the IAEA and IACRNE members
All	- Whenever possible issue coordinated press-releases/media advisory, or limit those to the areas of their respective mandates - Submit copies of any press releases to the IAEA's IEC or send/submit URL of public web site

Emergency Class: FACILITY EMERGENCY	
Description:	A major decrease in the level of protection for people on the site; can not give rise to an off-site hazard. This includes: fuel handling emergency; in-facility fire or other emergency not affecting safety systems; loss of shielding or control for a large gamma emitter or spent fuel; a criticality away from the site boundary; nuclear security events resulting in hazardous on-site conditions but with no potential to result in a criticality or release off-site that would warrant urgent protective actions.
Obligation:	There is **no obligation** on States Parties by virtue of the Early Notification Convention to notify the IAEA or other States of conditions representing a 'facility emergency'.
Expectation:	There is **no specific requirement** under the IAEA GS-R-2 Requirements to report conditions representing a 'facility emergency'.
Voluntary action:	A State may send an **advisory message** to the IEC regarding a 'facility emergency' in order: 1) to pre-empt legitimate requests from States for 'assistance' in obtaining information; and 2) for the IAEA, other relevant international organizations, or other States to provide advice to their governments, public or media on a situation of perceived radiological significance.
Recommendation:	The IAEA Secretariat **encourages** States to inform the IEC of a 'facility emergency' especially if the event may trigger (or has triggered) public concerns and/or wide media interest or in case of actual or suspected nuclear security event.

Emergency Class: FACILITY EMERGENCY	
Response actions	
Initial advisory message	
IAEA	- Authenticates initial notification and verifies the content with the reporting State - Offers good offices to the reporting State - Establishes basic response mode - May establish liaison with the reporting State - May publish advisory message on the IAEA's emergency web site, including any attachments and/or links to the reporting State's web site, unless otherwise instructed by the reporting State
EC	- Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system. - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
EUROPOL	- May be put on standby in case of actual or suspected nuclear security event
INTERPOL	- May be put on standby in case of actual or suspected nuclear security event
Further information from the reporting State	
IAEA	- Authenticates the message and verifies the content with the reporting State - Publishes further information on the IAEA's emergency web site, including any attachments and/or links to reporting State's own web site - Compiles and analyses information, assesses potential radiological consequences and anticipates possible event progression; advises States and international organizations - Uses fax for distribution of further information only if warranted or as a backup option
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
Request for information	
IAEA	- May request reporting State to provide more information and/or link to emergency web site
Other	- May submit requests for information to the IAEA's IEC
IAEA	- Compiles received information from the reporting State - Publishes summary on the IAEA's emergency web site unless otherwise instructed by the reporting State - Sends summary by fax to all States and relevant international organizations (backup option)
IAEA	- Authenticate and verifies requests for information - Compiles requests for information and forwards them to the reporting States - Collates replies and informs requesting contact points - Publishes replies on the IAEA's emergency web site if there is a sufficient number of requests for

Emergency Class: FACILITY EMERGENCY	
Response actions	
	information - Publishes on the IAEA's emergency web site an advisory message if there is a need to counter false rumours
Other	- Inform IAEA's IEC about any additional information they may be aware of
Request for advice or assistance	
IAEA	- Receives requests for advice or assistance and informs relevant international organizations that may be able to provide advice - Evaluates the situation and, in co-ordination with the relevant international organizations, provides technical advice to requesting State - May deploy a field response team in agreement with the requesting State *The provision of international assistance follows the IAEA Response and Assistance Network (RANET) process*
Other	- Informs the IAEA's IEC and other international organizations about received request for advice - Co-ordinates the provision of requested advice with relevant organizations, as appropriate, according to their respective roles
Public information	
IAEA	- Publishes reporting State press releases or URL of public web site on the IAEA's emergency web site - Establishes liaison with the official media focal points in reporting State and relevant international organizations as appropriate to coordinate release of information to the media - Issues press release(s) and posts on the IAEA's public web site detailing emergency and actions taken by and role of the IAEA
EC	- May prepare a Commission press release - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements - May make available press release to ECURIE Member States via ECURIE channels
All	- Whenever possible issue coordinated press-releases/media advisory, or limit those to the areas of their respective mandates - Submit copies of any press releases to the IAEA's IEC or send/submit URL of public web site

Emergency Class: ALERT	
Description:	An uncertain or significant decrease in the level of protection for the public or people on the site. This includes: release barriers, critical safety systems, and instrumentation, staff, natural occurrences, and fires, threat of nuclear security events.
Obligation:	There is **no obligation** on States Parties by virtue of the Early Notification Convention to notify the IAEA or other States of conditions representing an 'alert'.
Expectation:	There is **no specific requirement** under the IAEA GS-R-2 Requirements to report conditions representing an 'alert'.
Voluntary:	A State may send an **advisory message** to the IEC regarding an 'alert' in order: 1) to pre-empt legitimate requests from States for 'assistance' in obtaining information; 2) to provide advance warning to the IAEA, other relevant organizations or States of a developing situation so that they can be ready to respond should the situation worsen; and 3) for the IAEA, other relevant international organizations, or States to provide advice to their governments, public or media on a situation of perceived radiological significance.
Recommendation:	The IAEA Secretariat **encourages** States to inform the IEC of an 'alert' if the event may trigger (or has triggered) public concerns and/or wide media interest.

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Emergency Class: ALERT	
Response actions	
Initial advisory message	
IAEA	- Authenticates initial notification and verifies the content with the reporting State - May offer good offices to the reporting State - May establish liaison with the reporting State - May compile and analyse information, assess potential radiological consequences and anticipate possible event progression; advises States and international organizations - May publish advisory message on the IAEA's emergency web site, including any attachments and/or links to the reporting State's web site, unless otherwise instructed by the reporting State
EC	- Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
Further information from the reporting State	
IAEA	- Authenticates the message and verifies the content with the reporting State - May publish further information on the IAEA's emergency web site, including any attachments and/or links to reporting State's own web site, unless otherwise instructed by the reporting State - May compile and analyse information, assess potential radiological consequences and anticipate possible event progression; advises States and international organizations - Uses fax for distribution of further information only if warranted or as a back-up option
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
Request for information	
IAEA	- May request reporting State to provide more information and/or link to emergency web site
Other	- May submit requests for information to the IAEA
IAEA	- Compiles received information from the reporting State - May publish summary on the IAEA's emergency web site
IAEA	- Authenticate and verifies requests for information - Compiles requests for information and forwards them to the reporting States - Collates replies and informs requesting contact points - Publishes replies on the IAEA's emergency web site if there is a sufficient number of requests for information - Publishes on the IAEA's emergency web site an advisory message if there is a need to counter false rumours
Other	- Inform IAEA's IEC about any additional information they may be an issue of interest or concern
Request for advice	
IAEA	- Receives requests for advice and informs relevant international organizations that may be able to provide

Emergency Class: ALERT	
Response actions	
	advice - Evaluates the situation and, in co-ordination with the relevant international organizations, provides technical advice to requesting State
Other	- Informs the IAEA's IEC and other international organizations about received request for advice - Co-ordinates the provision of requested advice with relevant organizations, as appropriate, according to their respective roles
Public information	
IAEA	- May establish liaison with the official media focal point in reporting State - May issue press release and post on the IAEA's public web site detailing event and actions taken by and role of the IAEA
EC	- May prepare a Commission press release - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements - May make available press release to ECURIE Member States via ECURIE channels

Emergency Class: OTHER EVENTS IN NUCLEAR FACILITIES	
Description:	An insignificant decrease in the level of protection of the public or people on the site but raising public concerns and/or media interest or lessons can be learned by the international community.
Obligation:	There is **no obligation** on States Parties by virtue of the Early Notification Convention to advice the IAEA or other States of conditions representing this class of events.
Expectation:	There is **no specific requirement** under the IAEA GS-R-2 Requirements to report conditions representing this class of events.
Voluntary:	A State may send an **advisory message** to the IEC regarding this class of events in order: 1) to provide authoritative information on this class of events; and 2) to pre-empt legitimate requests from other States for 'assistance' in obtaining information.
Recommendation:	The IAEA Secretariat **encourages** States to inform the IEC of this class of events if the event may trigger (or has triggered) public concerns and/or wide media interest.

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Emergency Class: OTHER EVENTS IN NUCLEAR FACILITIES	
Response actions	
Initial advisory message	
IAEA	- Authenticates initial advisory and verifies the content with the reporting State - May establish liaison with the reporting State - May publish advisory message on IAEA's emergency web site, including any attachments and/or links to the State's web site, unless otherwise instructed by the State concerned
EC	- Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
Further information from the reporting State	
IAEA	- Authenticates the message and verifies the content with the reporting State - May compile and analyse information, assess potential radiological consequences and anticipate possible event progression; advises States and international organizations - May publish further information on the IAEA's emergency web site, including any attachments and/or links to reporting State's own web site, unless otherwise instructed by the reporting State
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
Request for information	
IAEA	- May request State concerned to provide more information and/or link to emergency web site
Other	- May submit requests for information to the IAEA
IAEA	- Compiles received information from the State concerned - May publish summary on the IAEA's emergency web site
IAEA	- Authenticate and verifies requests for information - Compiles requests for information and forwards them to the State concerned - Collates replies and informs requesting States - Publishes replies on the IAEA's emergency web site if there is a sufficient number of requests for information - Publishes on the IAEA's emergency web site an advisory message if there is a need to counter false rumours
Other	- Inform IAEA about any additional information they may be aware of
Request for advice	
IAEA	- Receives requests for advice and informs relevant international organizations that may be able to provide advice - Evaluates the situation and, in co-ordination with the relevant international organizations, provides technical advice to requesting State
Other	- Informs the IAEA and other international organizations about received request for advice - Co-ordinates the provision of requested advice with relevant organizations, as appropriate, according to their respective roles
Public information	

Emergency Class: OTHER EVENTS IN NUCLEAR FACILITIES	
Response actions	
IAEA	- May establish liaison with the official media focal point in reporting State - May issue press release and post on the IAEA's public web site detailing event and actions taken by and role of the IAEA
EC	- May prepare a Commission press release - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements - May make available press release to ECURIE Member States via ECURIE channels

Emergency Class: RADIOLOGICAL EMERGENCY	
Description:	Any incident or emergency which is of an actual, potential or perceived radiological significance. This includes: missing (lost or stolen) or lack of control of a dangerous or potentially dangerous source including re-entry of the space object with nuclear power source(s) or dangerous source on board; elevated radiation levels of unknown origin; transport accident; dispersion of alpha emitters; serious overexposure or diagnosis of medical symptoms of overexposure; accidental medical overexposure; and any events resulting in or potentially resulting in great concern among the population owing to the actual or perceived radiological hazard.
Obligation:	If a release of radioactive material occurs or is likely to occur and results or may result in transboundary release, States Parties to the Early Notification Convention **are obliged to forthwith notify** potentially affected States and the IAEA, **provide relevant information** and **respond to requests for information** from affected States.
Expectation:	States, in order to meet the IAEA GS-R-2 Requirements are **expected to notify**, provide relevant information and respond to requests for information if the 'radiological event' represents a transnational emergency or is likely to become one (e.g. a dangerous source that has been transported across or is suspected of having been transported across a national border; detecting significant increases in atmospheric radiation levels of unknown origin; or detecting significant increases in contamination in imported commodities).
Voluntary:	In all other cases a State may send an **advisory message** to the IEC informing about a 'radiological event'.
Recommendation:	The IAEA Secretariat **encourages** States to inform the IEC of this emergency class in particular in case of high media interest and/or public concerns. States should comply with response time objectives set out in the IAEA Safety Guide No. GS-G-2.1

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
Initial notification/advisory message	
IAEA	- Authenticates initial notification or advisory message and verifies the content with the notifying/reporting State - Offers good offices to the notifying/reporting State - May establish basic response mode - May establish liaison with the notifying/reporting State - Respecting any confidentiality constraints or instructions from the reporting State may publish advisory message on the IAEA's emergency web site, including any attachments and/or links to the reporting State's web site, unless otherwise instructed by the notifying/reporting State
EC	Where the criteria correspond to those for sending ECURIE Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises with relevant organizational levels and staff
FAO	- May assign liaison officers (AGE) to the IAEA's IEC - May put Nuclear Emergency Crisis Network of Technical Experts (ECN) on standby - May initiate initial assessment of the impact on food production and distribution systems, including potential measures to restrict food consumption
In case of suspected or actual transnational emergency (in case of 'notification')	
IAEA	- Forthwith informs by fax affected or possibly affected States - Publishes notification on the IAEA's emergency web site, including any attachments and/or links to the notifying State's web site - Sends email to potentially affected States and relevant international organizations, requesting them to access the IAEA's emergency web site and confirm receipt of notification - Calls relevant States and relevant international organizations that have not confirmed receipt of notification on the IAEA's emergency web site

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
EC	Where the criteria correspond to those for sending ECURIE Alert or Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
FAO	- May advise the Member Countries on organisation of food inspection and monitoring in food, agriculture, forestry and fisheries
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises with relevant organizational levels and staff
WHO	- Alerts IHR National Focal Points, WHO Regional and Country offices and IHR-Lyon office - Gathers additional information to initially assesses potential public health implications - Considers and plans for additional steps as appropriate, including fulfilment of the notification requirements under IHR provisions, dissemination of information to States Parties, and putting the relevant expert networks on standby - Ensures timely receipt of information required for public health risk assessment
Event Type: Elevated radiation levels Confirmed unusually higher ambient dose rates or activity concentrations in air, food or commodities believed to come from an unknown origin in another State, raising suspicion of an event of actual, potential or perceived radiological significance.	
IAEA	- Contacts relevant States to confirm the origin - May request specialized services from WMO - May establish liaison with FAO and/or WMO
WMO Lead RSMCs	- Provide specialized products based on IAEA requested parameters - Distribute products to the IAEA, WMO and NMHSs in the relevant region
CTBTO	- Provides global monitoring results (radionuclide air concentrations) and related expertise
EC	Where the criteria correspond to those for sending ECURIE Alert or Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
FAO	- May submit requests for information to the IAEA - May request the notifying State to provide information on food production and distribution and consumption restrictions in areas affected by the event - May compile information on food contamination and publishes information on USIE webpage along with recommendations on management options - May participate in the response mode and provide technical support to the affected State with emphasis on agricultural countermeasures and protection of the food supply
WHO	- Promptly informs Regional and Country Office and shares information with the IHR National Focal Point in the affected State. Requests IAEA to verify informationEnsures timely receipt of information required for assessment of potential public health risk. Continues monitoring the situation and public health surveillance
Event Type: Missing dangerous source A lost or stolen dangerous source, i.e. one that, if not brought under control, could give rise to exposure sufficient to cause severe deterministic effects.	
IAEA	- Based on available information confirms that the source can be (cannot be) categorized as ' dangerous' *If a dangerous source is found or detected (including one or several being used for criminal purposes), information about the exact location of the source(s) is withheld until the source(s) has (have) been made safe and secure.*
EC	Where the criteria correspond to those for sending ECURIE Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
FAO	- May submit requests for information to the IAEA's IEC - May compile information on food contamination and publishes information on USIE webpage along with

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
	recommendations on management options - May participate in the response mode and provide technical support to the affected State with emphasis on agricultural countermeasures and protection of the food supply
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises with relevant organizational levels and staff
WHO	- Informs Regional and Country Offices, shares information with the IHR National Focal Point in the affected State - Requests IAEA to verify information and gathers additional information to initially assesses potential public health implications - Considers additional steps, including putting the relevant expert networks on standby - Ensures timely receipt of information required for assessment of potential public health risk assessment - Continues monitoring the situation and public health surveillance - In case of assistance request on medical management of the injured person(s), engages WHO expert networks, as necessary; coordinates with the national health authorities of the affected State
Event Type: Space object re-entry A satellite or other space object with nuclear power source(s) or dangerous radioactive sources on board has given rise to a risk of re-entry of radioactive material to the Earth in the near future, or such re-entry is occurring or has occurred.	
IAEA	- Establishes liaison with OOSA and other international organizations as appropriate - Forthwith informs by fax States that may be physically affected and relevant international organizations - Offers the IAEA's good offices to potentially affected States
EC	Where the criteria correspond to those for sending ECURIE Alert or Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
OOSA	- Establishes liaison with the launching State and IAEA's IEC to ensure effective transmission of valid information, including pre-launch safety assessment (if available) - If required, liaise with States that have resources to track space objects and determine re-entry timeframe and probable impact coordinates for objects surviving components for transmission to the IAEA's IEC - Ensures most accurate trajectory and impact predictions (TIP) are provided to the IAEA's IEC for emergency response - Ensures any information relating to the incident received under other international instruments on space objects and their recovery is provided to the IAEA's IEC - Ensure any other States reporting a recovered space object within their territory during the incident timeframe takes full radiological precautions until its threat is assessed - Ensure the IAEA's IEC is aware of any other reports of recovered space objects to ensure containment of contamination - Informs the Secretary-General of the United Nation (SG) of the re-entry and provide the required briefing package (including TIPs, assessment of survivability of radiological components, and response scenarios)
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises with relevant organizational levels and staff
WHO	- Promptly informs Regional and Country Office and shares information with the IHR National Focal Point in the affected State - Requests IAEA to verify information - Ensures timely receipt of information from the IAEA and CTBTO as required for assessment of potential public health risk - Continues monitoring the situation and public health surveillance
Event Type: Release from a facility Events resulting in a release of radioactive material to the environment.	
IAEA	- Informs WMO (RTH Offenbach, all RSMCs, WMO Secretariat) - Requests specialized atmospheric transport and dispersion prediction products from the WMO lead RSMCs
EC	Where the criteria correspond to those for sending ECURIE Alert or Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
	- May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
WMO Lead RSMC	- Generate basic products based on IAEA's IEC request parameters, or with default scenario parameters if none are provided - Distribute products to the IAEA's IEC, WMO and NMHSs in the relevant region
CTBTO	- Provides global monitoring results (radionuclide air concentrations) and related expertise
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises with relevant organizational levels and staff
WHO	- Promptly informs Regional and Country Office and shares information with the IHR National Focal Point in the affected State - Requests IAEA to verify information - Ensures timely receipt of information from the IAEA and CTBTO as required for assessment of potential public health risk - Continues monitoring the situation and public health surveillance
	If the emergency involves contamination of water, surface, people or commodities that may warrant urgent protective actions, or for which precautionary protective actions have been taken
IAEA	- Inform and establish liaison with WHO - Inform and establish liaison with PAHO (if in the Americas) - Inform and establish liaison with FAO
FAO	- May submit requests for information to the IAEA's IEC - May request the notifying State to provide information on food production and distribution and consumption restrictions in areas affected by the event - May compile information on food contamination and publishes information on USIE webpage along with recommendations on management options - May convene meetings of ECN and prepare to support AGE as necessary - May establish liaison with the reporting state through FAO Representative - May initiate initial assessment of impact on food production and distribution systems, including potential measures to restrict food consumption - May participate in the response mode and provide technical support to the affected State with emphasis on agricultural countermeasures and protection of the food supply
OOSA	- Ensure any other States reporting a recovered space object within their territory during the incident timeframe takes full radiological precautions until its threat is assessed - Ensure the IAEA's IEC is aware of any other reports of recovered space objects to ensure containment of contamination
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises with relevant organizational levels and staff as well as with relevant intergovernamental and international organizations
WHO	- Promptly informs Regional and Country Office and shares information with the IHR National Focal Point in the affected State - Requests IAEA to verify information - Ensures timely receipt of information from relevant international organizations, as required for assessment of potential public health risk - Coordinates with the national health authority, engages WHO expert networks - Continues public health surveillance and offers advice and/or technical assistance to the affected State
Event Type: Severe overexposure An overexposure due to a radiation source, intake of or contamination with radioactive materials which can cause severe deterministic effects.	
IAEA	- Establishes liaison with WHO (and PAHO if in the Americas), and coordinates a joint response as appropriate - Takes steps to protect patient confidentiality
EC	Where the criteria correspond to those for sending ECURIE Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsLiaises

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
	with relevant organizational levels and staff as well as with relevant intergovernamental and international organizations
WHO	- Contacts ROs, COs, and the national health authority; requests additional information and continues monitoring the situation - Engages WHO expert networks and offers advice to the affected State - May deploy a technical expert to join IAEA Field Mission
Further information from the notifying/reporting State	
IAEA	- Authenticates the message and verifies the content with the notifying/reporting State - Publishes further information on the IAEA's emergency web site, including any attachments and/or links to the notifying/reporting State's web site respecting confidentiality constraints or instruction from the reporting State - Uses fax for distribution of further information only if convenient or as a backup option
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
Request for information	
IAEA	- May request notifying/reporting State and/or relevant international organizations to provide more information and/or link to appropriate emergency web site
OOSA	- Request the IAEA's IEC provide information for provision to the SG
PAHO	- Coordinates with the organizational levels concerned, with relevant WHO major offices, and activate relevant experts regional networks to cater for the needs of the requesting State or partner intergovernmental or international organization
WHO	- Requests national health authorities to provide additional information pertaining to the clinical management and prognosis and shares the information with IAEA, as required
Other	- May submit requests for information to the IAEA's IEC
IAEA	- Compiles received information from the reporting State - Publishes summary on the IAEA's emergency web site respecting any confidentiality constraints or instructions from the reporting State - Sends summary by fax to all States and relevant international organizations (back up option)
IAEA	- Authenticate and verifies requests for information - Compiles requests for information and forwards them to the notifying/reporting States - Collates replies and informs requesting contact points - Publishes replies on the IAEA's emergency web site if there is a sufficient number of requests for information - Publishes on the IAEA's emergency web site an advisory message if there is a need to counter false rumours
FAO	- Provides support in agriculture countermeasures and safety of food supplies
WHO	- Continues monitoring the situation and gathering information - Engages WHO expert networks in consultation process and offers technical advice to the affected State - May deploy a technical expert to join IAEA mission to the field
Other	- Inform IAEA's IEC about any additional information they may be aware of
Request for advice or assistance	
IAEA	- Receives requests for advice or assistance under the Assistance Convention and informs relevant international organizations that may be able to provide assistance and co-ordinates the resources to be allocated - Evaluates the situation and, in co-ordination with the relevant international organizations, provides technical advice to requesting State - May deploy a fact-finding team in agreement with the requesting State - May develop, in co-ordination with the requesting State, assisting States and international organizations, as appropriate, a comprehensive assistance action plan - Co-ordinates implementation of the assistance action plan - May place on standby additional resources *The provision of international assistance follows the IAEA Response and Assistance Network (RANET) process*
OOSA	- Provide advice and/or assistance to the IAEA, as required
PAHO	- Coordinates with the organizational levels concerned, with relevant WHO major offices, and activate relevant experts regional networks to cater for the needs of the requesting State or partner intergovernmental or international organization

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
WHO	- Receives requests for advice or technical assistance under the Assistance Convention via IAEA and under IHR directly from the State - Provides input to the IAEA mission planning and implementation; engages WHO expert networks in consultation process - May deploy a WHO technical expert to join IAEA Field Mission
Other	- Informs the IAEA's IEC and other international organizations about received request for assistance - Co-ordinates the provision of requested assistance with relevant organizations, as appropriate, according to their respective roles[43]
Public information	
IAEA	- Publishes reporting State press releases or URL of public web site on the IAEA's emergency web site - May establish liaison with the official media focal point in the notifying/reporting State and relevant international organizations as appropriate to coordinate release of information to the media - Issues press release(s) and posts on the IAEA's public web site detailing emergency and actions taken by and role of the IAEA in coordination with the notifying/reporting State
EC	- May prepare a Commission press release - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements - May make available press release to ECURIE Member States via ECURIE channels
OOSA	- Inform the Executive Office of the Secretary-General and the Spokesperson, to ensure prepared response to queries from media - Issues press releases, etc. if required
WHO	- May prepare an independent press-release (limited to the area of WHO's mandate), media statements, FAQs, Fact Sheets, etc. and share the press-release content with the IAEA and IACRNE members
All	- Whenever possible issue coordinated press-releases/media advisory, or limit those to the areas of their respective mandates - Submit copies of any press releases to the IAEA or send/submit URL of public web site
In case of complex emergency or disaster	
IAEA	- May establish liaison with OCHA *If the event is a complex emergency or disaster with a radiological component*
OCHA	- Coordinate international humanitarian assistance, lead advocacy efforts, and consolidate humanitarian information through reporting
PAHO	- Coordinates with the organizational levels concerned, with relevant WHO major offices, and activate relevant experts regional networks to cater for the needs of the requesting State or partner intergovernmental or international organization
WHO	- Coordinates Global Health Cluster[44] of the Inter-Agency Standing Committee providing arrangements for humanitarian response to disastersEnsures timely receipt of information for public health risk assessmentContinues public health surveillanceOffers technical assistance to the affected StateDisseminates information as appropriate to States Parties, through secure WHO websites EIS and EMS

[43] Those organizations with regional structures will ensure that other relevant organizations are consulted regarding any assistance to be provided through their regional offices, including UNDP

[44] http://www.who.int/hac/global_health_cluster/guide/en/index.html

ADDITIONAL RESPONSE ACTIONS in case an emergency is triggered by a nuclear security event	
Description:	Nuclear security event includes events that are criminal or intentional unauthorized act and unauthorized acts involving or directed at nuclear material, other radioactive material, associated facilities and associated activities. Examples of such events include sabotage, a radiological dispersal device or radiological exposure device etc. and threat thereof.

Additional response actions	
Initial notification/advisory message	
IAEA	- May establish liaison with EUROPOL, INTERPOL, WCO and/or other relevant international organizations as appropriate respecting instructions from the notifying/reporting State - May inform relevant States and relevant international organizations as appropriate respecting any confidentiality constraints and instructions from the notifying/reporting State
EC	Where the criteria correspond to those for sending ECURIE Alert or Advisory: - Authenticates incoming initial notification from the notifying State - Publishes the unedited information on WebECURIE and ensures that Member States & the IAEA's IEC are aware of its existence by means of a dedicated callout system - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements - May establish liaison with the EUROPOL
EUROPOL	- May be put on standby - May establish liaison with the concerned Member State(s) (for incidents in the EU) - May establish liaison with the EC (for incidents in the EU) - May establish liaison with the IAEA - May establish liaison with INTERPOL
INTERPOL	- May be put on standby - Could disseminate information about the act via its notice system (orange for materials and devices, red for individuals) - May establish liaison with EUROPOL and IAEA - Coordinate any preliminary international investigations
PAHO	- Interacts with national health authorities concerned, including through IHR communication channelsAlerts relevant organizational levels and staff
WHO	- Contacts ROs, COs, and the national health authority and requests additional information and continues monitoring the situation - Depending on the scale of the event, WHO ensures timely receipt of information required for potential public health risk assessment
Further information	
IAEA	- Authenticates the message and verifies the content with the reporting State - May further inform relevant States and relevant international organizations as appropriate respecting any confidentiality constraints or instructions from the reporting State
EUROPOL	- May activate the Europol First Response Network
INTERPOL	- Could disseminate information about the act via its notice system (orange for materials and devices, red for individuals) - Coordinate any preliminary international investigations
EC	- Ensures the availability of WebECURIE where the notifying or other ECURIE state can place all further information on the national and event status board
PAHO	- Continues as above
WHO	- May activate emergency response proceduresContinues public health surveillance, risk assessment, and public communicationDisseminates information as appropriate to States Parties, through secure WHO websites EIS and EMS
Other	- Inform IAEA about any additional information they may be aware of
Request for information	
IAEA	- May request notifying/reporting State to provide more information - Authenticate and verifies requests for information - Compiles requests for information and forwards them to the reporting States

Additional response actions	
Other	- May submit requests for information to the IAEA
IAEA	- Compiles received information from the reporting State - Informs requesting international organizations respecting any confidentiality constraints and instructions from the reporting State
Request for advice or assistance	
IAEA	- Receives requests for advice or assistance and may initiate RANET process - Informs relevant international organizations - Evaluates the situation and, in consultation with others, provides advice to requesting State
PAHO	- Coordinates with the organizational levels concerned, with relevant WHO major offices, and activate relevant experts regional networks to cater for the needs of the requesting State or partner intergovernmental or international organization
WHO	- Engages WHO expert networks in consultation and offers advice/assistance to the affected State - Where relevant to WHO mandate, provides input to the IAEA emergency response mission planning and implementation
Public information	
IAEA	- May publish notifying/reporting State press releases or URL of public web site on IAEA's emergency web site - May establish liaison with the official media focal point in notifying/reporting State - In coordination with the notifying/reporting State may issue press release(s) and posts on the IAEA's public web site detailing threat and actions taken by and role of the IAEA
EC	- May prepare a Commission press release - May have draft press releases checked for accuracy/suitability by an independent party under RESPEC arrangements - May consult EUROPOL regarding press release - May make available press release to ECURIE Member States via ECURIE channels - Will assess risk communication needs on an ad hoc manner and interact with the public and the media through the channels deemed most appropriate
WHO	- If necessary, may prepare an independent press-release (limited to the area of WHO's mandate), media statements, FAQs, Fact Sheets, etc. and share issued press-release content with the IAEA and IACRNE members

Section 4

4. EMERGENCY PREPAREDNESS

4.1. General responsibilities

Commensurate with their respective functions, roles and responsibilities each participating organization establishes and maintains adequate emergency preparedness and response programme.

The IACRNE is the co-ordination mechanism between the participating organizations for facilitating development and maintenance of coordinated and consistent preparedness and response arrangements. However, the Committee's activities do not affect the co-operation arrangements defined in the relationship agreements among organizations, and their day-to-day implementation.

As per the IACRNE's Terms of Reference (see Appendix E), any international intergovernmental organization that has a role with respect to preparedness for or response to radiation emergencies is eligible for membership in, and subject to approval of, the Committee. To address major preparedness tasks, the Committee may establish, based on an identified need, standing and/or ad hoc working groups[45].

The Committee corresponds as necessary with other international organizations, may invite such organizations on an ad-hoc basis to send representatives to attend IACRNE's meetings as observers, or may co-opt representatives to the Committee for specific purposes.

4.2. Basis for preparedness

Using the guiding principles expressed in Section 2.6 the basis for preparedness at the level of participating organizations derives from their statutory functions while specific obligations with respect to the emergency exchange of information and international assistance derives from the Early Notification and Assistance Conventions and other applicable instruments depending upon the particular organization and function. Relevant safety standards on emergency preparedness and response[46] support these responsibilities.

[45] By way of example, in lieu of the lessons learned and experiences gained during the response to the general emergency at the Fukushima Daiichi nuclear power plant in 2011, the Committee established an IACRNE ad-hoc Working Group on Air and Maritime Transportation, with principle responsibility to facilitate coordinated and consistent response amongst concerned international organizations and trade associations in the event of a radiation incident or emergency that is having or that is perceived to have an impact on the international air and/or maritime navigation.

[46] In particular, the IAEA GS-R-2 Requirements.

Specific functions and capabilities of each participating organization are described in Appendix B.

It is the responsibility of the participating organizations to ensure that appropriate arrangements are made within their organizations to carry out their functions in line with this Joint Plan.

4.3. Inter-agency arrangements and procedures

Inter-agency response arrangements, procedures and communication channels, including those for providing media information, documented separately from this Joint Plan, are formalized by a simple exchange of letters between the parties, and may be independently updated from time to time[47]. They are based on this Joint Plan or harmonized with it, and maintained by the participating organizations. These arrangements and procedures describe the standard response actions to be taken by each participating organization during an emergency. The implementation of and changes to these arrangements and procedures are done in an orderly, co-ordinated and agreed manner.

The IACRNE is maintaining a list of all inter-agency response arrangements and procedures.

4.4. Financing

Each participating organization makes arrangements to cover their own expenses for all the activities related to the preparedness and response activities of this Joint Plan.

4.5. Feedback from responses

Following response to an emergency the IACRNE compiles lessons identified (a critique of deficiencies in the Joint Plan and inter-agency arrangements) and initiates any appropriate follow-up corrective actions.

4.6. Training and exercises

Participating organizations assist each other and their Member States with training activities designed to improve preparedness for response. Each organization is encouraged to co-ordinate its training programmes through the IACRNE to avoid duplication and make its training available to other organizations.

The IACRNE prepares and conducts its own table-top exercises from time to time aimed at reviewing coordination mechanisms defined in this Joint Plan.

Each participating organization, in conjunction with its Member States, also periodically exercises its arrangements. Each organization is encouraged to co-ordinate its international exercises with the IACRNE and invites participation by other participating organizations to avoid duplication and make the most efficient use of resources. To improve coordination, the IACRNE prepares, as far as feasible, and disseminates a multi-year calendar of planned international exercises.

[47] A list of current inter-agency arrangements is given in Appendix A.

4.6.1. International exercises

For any international exercise proposal brought to the Committee by its members the following general working method applies:

1. The organization bringing the exercise to the IACRNE for coordination is the exercise lead organisation;

2. If other organizations are interested in participating, then they should each have their own exercise working groups to address their own specific exercise objectives and arrangements;

3. The IACRNE has a standing working group[48] to facilitate overall coordination between participating organizations and with exercise host State (if any), agree on common objectives, work towards an agreed scenario, develop common exercise documents, etc. (although there may still be organisation specific exercise documents);

4. If there are any irresolvable incompatibilities in objectives, approaches, etc., the final decision resides with the exercise lead organisation (in agreement with the exercise host State, if any);

5. With respect to invitation to interested States, there should be a common, coordinated invitation that is sent out by each participating organisation to its Member States/points of contact;

6. Each participating organization conducts its own evaluation and prepare its own report;

7. The IACRNE Working Group on Coordinated International Exercises prepares an overall exercise evaluation report.

4.6.2. ConvEx-3 exercise

In particular, the IAEA prepares and conducts communication drills and exercises entitled ConvEx (Conventions Exercises) at three levels. These exercises take place according to a predetermined schedule and are described in the IEComm manual. All participating organizations may take part in any of these exercises, but in particular they take part in large-scale ConvEx-3 exercise, covering mostly the response in an early phase of a severe radiation emergency. It is conducted every few years using an appropriate exercise scenario to test the response of States and international organizations in a severe radiation emergency (irrespective of the cause), including information exchange, provision of assistance and coordination of public information.

The IAEA invites States to host the ConvEx-3 exercise at least 18 months in advance and expects to receive offers in the following 6 months. The IAEA liaises with the States offering to host the exercise and with the Committee in order to decide which State will host the exercise. The hosting State must meet the following conditions:

1. The host State must be an IAEA Member State and apply the current IEComm arrangements;

[48] IACRNE Working Group on Coordinated International Exercises

2. The host State must simulate an emergency involving a significant release of radioactive material into the environment requiring off-site protective actions and having transnational impact;

3. The national warning point, relevant competent authorities in the host country and the 'accident/victim facility' (if applicable) must participate in the exercise;

4. The exercise must last a minimum of 24 hours from the first message sent to the IAEA;

5. The host State must guarantee its intention to establish and maintain communication links and information exchange with the IAEA's IEC throughout the exercise; and

6. The host State must designate at least one person to work over an 12-month period with the IACRNE Working Group on Coordinated International Exercises to prepare the international part of the exercise, especially the drafting of exercise documents, and conducting the exercise evaluation.

The decision about the host State takes also into account available resources and the expressed objectives of international organizations intending to participate. When choosing the host State priority is given to States in the regions that have not yet hosted the ConvEx-3 exercise. Detailed preparation begins no later than eighteen months before the scheduled date of the exercise. Preparation, conduct and evaluation are coordinated through the IACRNE Working Group on Coordinated International Exercises, and involve also representatives of neighbouring States intending to participate.

The IACRNE Working Group on Coordinated International Exercises prepares the *Exercise Manual*[49] and distributes it to designated exercise controllers. Evaluation of the international part of the exercise aims at identifying deficiencies in this Joint Plan and inter-agency arrangements.

IACRNE organizations and 'Accident State' or 'Victim State' neighbouring countries are expected to participate while all other States are encouraged to participate in these exercises.

4.7. Reviews of the Joint Plan and inter-agency arrangements

This Joint Plan and inter-agency arrangements of the participating organizations are reviewed regularly, but in no case less than biennially, and updated as may be necessary, based on the review outcomes.

In conducting the Joint Plan review, the IACRNE seeks input from all participating organizations. The IACRNE may identify radiation emergency management areas that could be improved and suggest corrective actions.

[49] Comprising of a Guide for Controllers, a Guide for Evaluators, a Guide for Players and an Evaluator's Report template.

4.8. Maintenance of the Joint Plan

It is the responsibility of the IACRNE Secretary, in collaboration with the participating organizations, to co-ordinate the maintenance and updating of this Joint Plan, and to ensure that all participating organizations are notified of any revisions to this Joint Plan.

This Joint Plan and the attendant inter-agency arrangements are maintained in an up to date form incorporating a biennial review cycle and change process. The objective of the change process is to ensure an orderly introduction of changes to the system so that:

1) Parties are clear what arrangements are in effect at any given time, and know how to respond to an on-going emergency;

2) Parties have adequate advance time and information available to them to make any necessary changes to their plans and arrangements and to train affected personnel before the new release comes into effect.

The change process and review cycle, illustrated in Figure 4, is co-ordinated and implemented by the Committee.

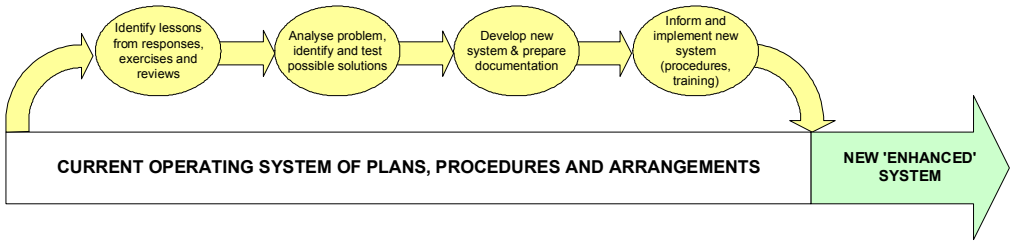


Figure 4: Concept of process for managing major changes.

As part of the change process, regular reviews and feedback from exercises and real responses lead to lessons being identified. The Committee recommends and prioritizes actions to be taken on the basis of the lessons learned. The identification of possible solutions may involve research, feasibility studies, workshops, and fostering of technical discussions. Programmes for addressing the lessons to be learned and for developing possible solutions are co-ordinated to the extent possible by the Committee.

4.9. Co-operation in developing national capabilities

Several participating organizations have legal and other statutory obligations to provide technical co-operation in the development of national and regional emergency preparedness and response arrangements. Such technical co-operation may take the form of equipment provision, expert missions, reviews and services, training events, fellowships and diplomatic initiatives. In order to optimize the resources available for such initiatives, the participating organizations, to the extent reasonable and achievable, take steps to share plans in advance, consult with each other as appropriate, and harmonize co-operation programmes.

In addition, participating organizations encourage their counterparts at the national level to strengthen their co-operation as appropriate and ensure that arrangements are co-

ordinated nationally in a manner that they are compatible with the interagency arrangements described in this Joint Plan.

Distribution

Controlled distribution of this Joint Plan and any amendments is as follows:

By	To
CTBTO	Authorized users of CTBTO data and products
EADRC	NATO Allied and PfP Partner countries
EC	EC internal services, national contact points, competent authorities and national correspondents of the ECURIE system
EUROPOL	Europol National Units – ENUS (EU law enforcement national contact points) Liaison Bureaux of EU Member States and third states represented at Europol
FAO	Permanent Missions of Member States to the FAO; Regional, Sub-regional and National Offices
IAEA	Competent authorities of Parties to the Convention on Early Notification of a Nuclear Accident and to the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
	Secretariats of CTBTO, EC, EUROPOL, FAO, ICAO, IMO, INTERPOL, OCHA, OECD/NEA, OOSA, PAHO, UNEP, UNSCEAR, WHO, WMO
ICAO	Contracting States of ICAO
IMO	Member States of the IMO
INTERPOL	National Central Bureaus
NEA	Members of the Committee on Radiation Protection and Public Health (CRPPH); Members of the Working Party on Nuclear Emergency Matters (WPNEM); other relevant NEA standing technical committees
OCHA	OCHA SMT, Duty Officers, Relevant OCHA staff in Emergency Services Branch, Heads of Regional Offices, CRD Desk Officers
OOSA	Member States of the United Nations
PAHO	Member States of PAHO and of OAS
UNEP	Committee of Permanent Representatives (Designated National Focal Points)
UNSCEAR	Representatives of States on UNSCEAR, Director UNEP/DEWA
WHO	Member institutes of the WHO/REMPAN network, regional offices of WHO Permanent Missions of Member States to the WHO
WMO	Permanent Representatives with WMO of all Member States, including those with RSMCs with specialization in atmospheric transport modelling

Appendix A
Legal instruments, resolutions and other relevant sources

The following international conventions, resolutions and international legal agreements define specific and primary responsibilities for aspects of planning for and response to nuclear or radiological emergencies: 14, 15, 17, 18.

The following resolution of the UN General Assembly defines specific and primary responsibilities for planning for and response to humanitarian emergencies in general: 26.

The following Statutes define general responsibilities for planning, decisions or actions that may pertain to preparedness and/or response to nuclear or radiological emergencies: 1, 2, 4.

The following Memorandum of Understanding apportions specific responsibilities for planning and response to nuclear or radiological emergencies: 32.

Relevant decisions of executive bodies and/or regulations and general co-operation agreements between organizations that pertain to nuclear or radiological emergencies are referred to in the text, as appropriate.

Statutes of participating organizations

1. Constitution of the World Health Organization.
2. Constitution of the Food and Agriculture Organization of the United Nations.
3. Convention on International Civil Aviation.
4. Statute of the International Atomic Energy Agency.
5. Charter of the United Nations.
6. World Meteorological Convention.
7. Constitution of the Pan American Health Organization.
8. The Constitution and General Regulations of the ICPO-INTERPOL and amendments.

9. Treaty on European Union (1990).

10. Council Decision establishing the European Police Office (Europol) of 6 April 2009.

11. EURATOM treaty (EU Member States 1957).

12. Statute of the OECD Nuclear Energy Agency (amended 1995).

13. Comprehensive Nuclear-Test-Ban Treaty (not yet entered into force).

Relevant conventions, treaties and international legal instruments

14. Convention on Early Notification of a Nuclear Accident (1986)[50].

15. Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1986)[51].

16. International Health Regulations (2005, entered into force on 15 June 2007).

17. Treaty on Principles covering the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (1967).

18. Convention on Registration of Objects launched into Outer Space (1975).

19. Convention on International Civil Aviation: Annex 3 – Meteorological Service for International Air Navigation, Part I, paragraphs 3.2.1e), 3.4.2g) and Part II, Appendix 1, Model SN and Appendix 9, paragraphs 1.3e) and 3.1b)3).

20. Convention on International Civil Aviation Annex 4 – Aeronautical Charts, Appendix 2, Item 72.

21. Convention on International Civil Aviation Annex 11 – Air Traffic Services, paragraphs 4.2.1.c), 6.2.2.2.1f) and 7.6.

22. Convention on International Civil Aviation Annex 15 – Aeronautical Information Services, paragraph 5.1.1.1v), Appendix 1, ENR 5.3.2.

23. International Convention for the Safety of Life at Sea (SOLAS), 1974.

24. International Convention for the Prevention of Pollution From Ships (MARPOL) 1973 as modified by the Protocol of 1978.

[50] INFCIRC 335: Party to the Convention on Early Notification of a Nuclear Accident, entered into force 27 October 1986 (WMO, FAO, WHO).
[51] INFCIRC 336: Party to the Convention on Assistance in the Case of a Nuclear Accident, entered into force 26 February 1987 (WMO, FAO, WHO).

25. Protocol on Preparedness, Response and Co-operation to Pollution incidents by Hazardous and Noxious Substances.

United Nations General Assembly Resolutions

26. General Assembly Resolution No. 46/182, Strengthening of the co-ordination of humanitarian emergency assistance of the United Nations (1991).

27. General Assembly Resolution 47/68, The Principles Relevant to the Use of Nuclear Power Sources in Outer Space adopted on 14 December 1992.

28. General Assembly Resolution No. 2997 – Institutional and financial arrangements for international environmental cooperation, 1972.

29. General Assembly resolution No. 913(X) – Effects of atomic radiation, adopted 3 December 1955.

30. General Assembly resolution No. 3154 (XXVIII) – Effects of atomic radiation, adopted 14 December 1973.

31. General Assembly resolution No. 67/112 – Effects of atomic radiation, adopted 18 December 2012.

Inter-Agency agreements

32. Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

33. Relationship Agreement: Agreement between the International Atomic Energy Agency and the World Health Organization, entered into force May 28, 1959. INFCIRC 20, Part III.

34. Agreement between the International Atomic Energy Agency and the World Meteorological Organization, entered into force 12 August 1959.

35. Administrative Agreement on Co-operation between the European Commission and the European Police Office (EUROPOL), February 2003.

36. Operational Agreement on Co-operation between the European Police Office (EUROPOL) and the International Criminal Police Organisation (INTERPOL), November 2001.

37. Memorandum of Understanding related to Assessment, Prevention, Control and Establishment of Marine Pollution and Related Research and Monitoring between the International Atomic Energy Agency, the United Nations Environment Programme and the Intergovernmental Oceanographic Commission of UNESCO.

38. Notification and Information Exchange in a Nuclear or Radiological Emergency – Co-operative Arrangements between EC (DG TREN H.4) and IAEA (IEC), 2005.

39. Practical Arrangements between the International Atomic Energy Agency and the Pan American Health Organization, 2012.

40. Agreement between the World Meteorological Organisation and the Comprehensive Test Ban Treaty (Entry in to force in 2003).

Other agreements

41. Special Agreement between the European Union and Switzerland for exchange of information in case of a nuclear accident.

42. Special Agreement between the European Union and The Former Yugoslav Republic of Macedonia for exchange of information in case of a nuclear accident.

Working arrangements between agencies

43. Working Arrangements between the International Civil Aviation Organization and the World Meteorological Organization (ICAO Doc 7475).

44. Meteorological assessment support in a nuclear emergency – cooperative arrangements between WMO and IAEA, March 2003.

45. Information exchange and technical support in relation to food and agriculture in the case of a nuclear or radiological emergency – cooperative arrangements between FAO and IAEA, July 2007.

46. Concept of Operations for response to a nuclear or radiological emergency – cooperative arrangements between WHO and IAEA Secretariats, February 2003.

47. Memorandum of Understanding between the European Commission and the EURDEP Member States.

Regulations, directives, decisions and other resolutions

48. EU Council Decision of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency (87/600/Euratom).

49. EU Council Regulation of 22 December 1987 laying down maximum permitted levels of radioactive contamination in foodstuffs and animal feeding stuffs following a nuclear accident or any other case of radiological emergency (87/3954/Euratom).

50. EU Council Directive of 13 May 1996 laying down basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation (96/29/Euratom).

51. IAEA Board of Governors: GOV/1999/15: Financing of the discharge of Agency obligations under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, including the provision of assistance by the Agency in the event of a Nuclear Accident or Radiological Emergency.

52. IAEA Board of Governors: GOV/2004/40 (Corrected): Measures to strengthen international cooperation in Nuclear, Radiation and Transport Safety and Waste Management: International action plans for strengthening the international preparedness and response system for nuclear and radiological emergencies, and on the decommissioning of nuclear facilities.

53. UNEP GC Decision 22/8 of 7 February 2003 – Further improvement of environmental emergency prevention, preparedness, assessment, response and mitigation.

54. UNEP GC Decision 21/17 of 9 February 2001 – Further improvement of environmental emergency prevention, preparedness, assessment, response and mitigation.

55. UNEP GC Decision 20/8 of 5 February 1999 – Further improvement of the international response to environmental emergencies.

56. UNEP GC Decision 19/9 of 7 February 1997 – Improvement of the international response to environmental emergencies.

57. UNEP GC Decision 18/19 of February 1995 – Improvement of the international response to environmental emergencies.

58. UNEP GC Decision 16/37 of May 1991 – Early warning and forecasting of environmental emergencies.

59. UNEP GC Decision 17/5 of May 1993 – Application of environmental norms by military establishments.

60. UNEP GC Decision 15/39 of May 1989 – Industrial accidents.

61. WHO World Health Assembly Resolution WHA55.16 of 18 May 2002: Global public health response to natural occurrence, accidental release or deliberate use of biological and chemical agents or radio-nuclear material that affect health.

62. WHO World Health Assembly Resolution WHA58.3 of 23 May 2005: Revision of the International Health Regulations.

63. WHO World Health Assembly Resolution WHA59.22 of 27 May 2006: Emergency preparedness and response.

64. Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief – "Oslo Guidelines" – Rev. 1.1 (November 2007).

65. Guidelines on the Use of Military and Civil Defence Assets to Support United Nations Humanitarian Activities in Complex Emergencies – "MCDA Guidelines" – Rev. 1 (January 2006).

66. Safety Framework for Nuclear Power Source Applications in Outer Space (endorsed by the Committee on the Peaceful Uses of Outer Space at its fifty-second session and contained in A/AC.105/934), UNCPUOS, IAEA (2009).

Standards

67. Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards – Interim Edition, IAEA Safety Standards, General Safety Requirements Part 3, No. GSR Part 3 (Interim), IAEA, Vienna (2011).

68. FAO/IAEA/ILO/OECD(NEA)/OCHA/PAHO/WHO, Preparedness and Response for a Nuclear or Radiological Emergency, GS-R-2, IAEA, Vienna (2002).

69. International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code).

70. Code of Safety for Nuclear Merchant Ships, 1982.

71. Joint FAO/WHO Food Standards Programme, Codex General Standard for Contaminants and Toxins in Foods, Schedule I – Guideline Levels for Radionuclides in Foods, (CODEX STAN 193-1995).

72. IAEA, OECD/NEA, INES The International Nuclear and Radiological Event Scale User's Manual 2008 Edition, IAEA (Vienna 2009).

Appendix B

APPENDIX B
Authorities, responsibilities and capabilities of participating organizations

This appendix addresses the activities each participating organization makes with regard to emergency preparedness and response to radiation incidents and emergencies both within their own organizations and in support of development in their Member States.

COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION (CTBTO)

Address

Routine Contact

CTBTO Preparatory Commission
Vienna International Centre
PO Box 1200
1400 Vienna, Austria
http://www.ctbto.org

Emergency Contact

For details go to USIE address book

Responsibilities and authorities

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) bans nuclear explosions by everyone, everywhere: on the Earth's surface, in the atmosphere, underwater and underground. Since the Treaty is not yet in force, the organization is called the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Organization (CTBTO). It was founded in 1996 and is based in Vienna.

The Treaty has a unique and comprehensive verification regime to make sure that no nuclear explosion goes undetected. This regime consists of three pillars:

1. The International Monitoring System (IMS)
   IMS will, when complete, consist of 337 facilities worldwide to monitor the planet for signs of nuclear explosions. The IMS uses the following four technologies:
   - *Seismic:* 50 primary and 120 auxiliary seismic stations monitor Shockwaves in the Earth. The vast majority of these Shockwaves – many thousands every year – are caused by earthquakes.

- *Hydroacoustic:* 11 hydroacoustic stations "listen" for sound waves in the oceans. Sound waves from explosions can travel extremely far underwater.

- *Infrasound:* 60 stations on the surface can detect ultra-low frequency sound waves (inaudible to the human ear) that are emitted by large explosions.

- *Radionuclide:* 80 stations measure the atmosphere for radioactive particles; 40 of them also pick up noble gas. They are supported by 16 radionuclide laboratories.

2. The International Data Centre.
The International Data Centre at the CTBTO's headquarters in Vienna receives gigabytes of data from the global monitoring stations. The data are processed and distributed to the CTBTO's Member States in both raw and 2nalysed form.

3. On-Site Inspections
On-site inspections can be dispatched to the area of a suspicious nuclear explosion if the data from the IMS indicate that a nuclear test has taken place there. Inspectors will collect evidence on the ground at the suspected site. Such an inspection can only be requested and approved by Member States once the CTBT has entered into force.

Organization

The Provisional Technical Secretariat of CTBTO has five divisions under Executive Secretary; three of them are dealing with technical verification related issues: International Monitoring System Division (IMS), International Data Centre Division (IDC) and On-site Inspection Division (OSI). Division of Administration and Legal and External Relations Division are performing their corresponding tasks. The work of the technical divisions (IMS, IDC and OSI) is evaluated by the Evaluation Section reporting directly to the Executive Secretary.

Capabilities and arrangements

Four technologies are used by the CTBTO in the global monitoring networks that it operates to detect seismic, hydroacoustic, infrasound and radionuclide signals. All stations in the global network must meet the stringent specifications and be operated in accordance with common procedures. Data quality is monitored constantly to ensure not only the quality of the data, but also the quality of the products that are derived from them. Both automatic and human reviewed analysis results are produced, including estimates of the possible source regions for detected radionuclides that are based on Atmospheric Transport Modelling. All States that are party to the Treaty have access to the data and any processing result derived from that data through delivery mechanisms.

CTBT-related information is useful in forming a picture of the global and local radiological situation. The CTBTO's globally distributed and highly sensitive radionuclide stations have an excellent detection capability for a large set of fission and activation products/ The monitoring network and PTS processing capabilities allowed the PTS to assess the conditions causing the release at the source location and to provide information on the global radiological situation, including predictions of when detections were expected at the radionuclide stations.

CTBTO can provide:

- The results and expertise of the PTS that are relevant to IACRNE. They could be shared through joint meetings and mutually agreed data sharing mechanisms.
- More generally, expertise, data and analysis results related to local and global atmospheric radiological situation.

EURO-ATLANTIC DISASTER RESPONSE COORDINATION CENTRE (EADRCC) OF THE NORTH ATLANTIC TREATY ORGANIZATION

Address

Routine Contact

Euro-Atlantic Disaster Response Coordination Centre
NATO HQ
Boulevard Leopold III
1110 Brussels
Belgium
http://www.nato.int/eadrcc/home.htm

Emergency Contact

Duty Officer

For details go to USIE address book

Responsibilities and authorities

The EADRCC was established in 1998 as a partnership tool of NATO Civil Emergency Planning, and is NATO's principal civil emergency response mechanism, involving 22 Partner countries[52] in addition to the 28 Allies[53]. The Centre stands ready, all year round, on a 24 hour basis to respond to civil emergency situations in the Euro-Atlantic area, and to function as a clearing-house mechanism for the coordination of requests and offers of assistance.

The EADRCC is a 'one-stop-shop' for information sharing on disaster assistance and consequence management activities in case of natural and technological disasters as well as, following September 2001, for requests for assistance in the event of a major chemical, biological, radiological, nuclear (CBRN) incident in the Euro-Atlantic Partnership Council (EAPC) area. The coordination activities involve close cooperation with NATO Military Authorities and consultations with the United Nations' Office for the Coordination of Humanitarian Affairs (UN-OCHA) and other relevant International Organisations (IOs).

The EADRCC's geographical mandate has been gradually widened by granting the countries of the Mediterranean Dialogue[54], the Istanbul Cooperation Initiative (ICI)[55] and Partners across the Globe[56] direct access to the Centre.

[52] Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Finland, the former Yugoslav Republic of Macedonia, Georgia, Ireland, Kazakhstan, Kyrghyz Republic, Malta, The Republic of Moldova, Montenegro, Russia, Serbia, Sweden, Switzerland, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.
[53] Albania, Belgium, Bulgaria, Canada, Croazia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Litthuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, United Kingdom, United States.
[54] Algeria, Egypt, Israel, Jordan, Mauritania, Morocco and Tunisia
[55] Bahrain, Qatar, Kuwait, the United Arab Emirates
[56] Afghanistan, Australia, Iraq, Japan, the Republic of Korea, Mongolia, New Zealand, Pakistan

In order to enhance cooperation and to practise responses to simulated natural and man-made disasters situations and consequence management, the EADRCC organizes annually a large scale international exercise.

Organization

The EADRCC is part of the International Staff's Operations Division of NATO Headquarters and is staffed by members of the International Staff and Voluntary National Contribution (VNCs) seconded from Allies and Partner nations

Capabilities and arrangements

Two key instruments have been developed to implement and assist NATO's civil emergency activities:

- the Civil Capabilities Catalogue comprises areas of civilian expertise that can be used during crisis-response operations. About 400 experts are selected based on specific areas of support frequently required, including crisis management, consequence management and critical infrastructure, to participate in training and respond to requests for assistance. They can be deployed individually or as part of a team (the Rapid Reaction Team);
- the Rapid Reaction Team is composed of civil experts and can be deployed within 48 hours to assess civilian requirements across the functional areas of transport, communications, civil protection, industrial planning and supply, medical matters, food and agriculture.

The EADRCC maintains an *Inventory of National CBRN Consequence Management Capabilities* which comprises the key types of capabilities that would be critically required for immediate response needs in case of chemical, biological or radiological (CBRN) incident or attack against civilian populations.

Nations responding to an incident involving CBRN agents can request the EADRCC to assist in the co-ordination of the response to this incident. The EADRCC will use the *Inventory* to identify the resources requested by the stricken nation and will act as a clearinghouse for assistance in case of CBRN incidents in the same manner as it does for natural and technological disasters.

EUROPEAN COMMISSION (EC)

Address

Routine Contact	Emergency Contact
European Commission 200 rue de la Loi/Wetstraat 200 B-1049 Brussels BELGIUM http://ec.europa.eu/ http://ec.europa.eu/energy/nuclear/radiation_protection/radiation_protection_en.htm	Office responsible for nuclear emergency response For details go to USIE address book

Responsibilities and authorities

The European Commission, which acts as the Secretariat for the European Union, has obligations to the EU Member States, The Former Yugoslav Republic of Macedonia (FYROM), Croatia and Switzerland in the event of a nuclear accident or radiological emergency, namely:

- to inform all Member States of the European Union[57], the FYROM, Croatia and Switzerland of any information it receives under ECURIE arrangements for the early notification of radiological emergencies[58];
- to render applicable maximum permissible levels of radioactive contamination for foodstuffs and animal feeding stuffs; and to communicate information about cases of non-compliance among EU Member States[59].

The European Commission has responsibility to maintain its preparedness to forward initial and subsequent additional information to ECURIE Member States[60] and to implement the Community foodstuff and animal feedstuff regulations in emergency situations.

While it has no responsibility to do so, the Commission co-ordinates a number of activities to improve emergency preparedness and to promote related research not only within the EU Member States but also in Central and Eastern European Countries (CEECs) and in countries of the former Soviet Union (FSU).

Organization

The focus for response within the European Commission is the DG ENER D3, Radiation Protection. This office maintains a 24 hour standby duty for nuclear and radiological emergencies within the EU Member States, FYROM, Croatia and Switzerland. Unit ENER D3 operates the European Community Urgent Radiological Information Exchange (ECURIE) system, which provides the technical communication platform for informing all EU Member States, the FYROM, Croatia and Switzerland of urgent radiological information received via ECURIE channels.

For radiological emergency situations the European Commission has set up arrangements for automatic exchange of environmental radiation measurement data in routine and emergency situations through the EURDEP system[61]. Additionally a web-based system ENSEMBLE[62] is available for compiling atmospheric dispersion modelling data from several national organizations in charge of dispersion modelling.

Capabilities and arrangements

The European Commission co-operates with its Member States, Candidate Countries and neighbouring States in the field of emergency preparedness in order to improve and harmonize preparedness arrangements in Europe. The following projects have important functions in emergency preparedness:

- EURDEP (European Radiological Data Exchange Platform) is an official part of the ECURIE system and is a platform for the exchange of data from national environmental radiation monitoring networks. Data is continuously exchanged through EURDEP, but the frequency of update can be intensified in the case of a nuclear or radiological emergency. Participation in the EURDEP system is

[57] Council Decision of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency (87/600/EURATOM).
[58] Special Agreements with Switzerland, Croatia and FYROM for exchange of information in the case of a nuclear accident, whereby Switzerland have all rights and duties as defined in the Council Decision 87/600/EURATOM. Similar agreements are being negotiated with EU Candidate Countries (Turkey, Iceland, Serbia and Montenegro).
[59] Council Regulation 3954/87/EURATOM laying down maximum permitted levels of radioactive contamination in foodstuffs and animal feeding stuffs following a nuclear accident or any other case of radiological emergency.
[60] European Union Member States, Croatia and Switzerland.
[61] EUropean Radiological Data Exchange Platform(http://eurdep.jrc.ec.europa.eu/)
[62] http://ensemble.ei.jrc.it/

however not limited to the 27 EU Member States and currently includes also Switzerland, Croatia, Russia, Norway, Iceland, FYROM and Turkey.

- The RODOS (Real-time On-line Decision Support) programme provides tools for decision making and situation assessment in nuclear emergency response. The tools include not only atmospheric dispersion but also the subsequent dispersion in the environmental compartments and the consequent potential exposure and health risk to the general public.

- The ENSEMBLE programme can provide a platform for compiling long-range atmospheric dispersion modelling data from participating national organizations in charge of dispersion modelling.

Apart from the power to implement Community-wide restrictions on the use of foodstuffs and animal feeding-stuffs the European Commission has no responsibility for management of countermeasures within the European Union, but it can provide some assistance through its humanitarian office (ECHO) and civil protection mechanism.

In addition, the Commission supports and funds training courses for off-site emergency planning and response for experts in the Member States and Candidate Countries.

B

EUROPEAN POLICE OFFICE (EUROPOL)

Address

Routine Contact	Emergency Contact
Eisenhowerlaan 73 2517 KK The Hague The Netherlands P. O. Box 90850 2509 LW The Hague The Netherlands http://www.europol.europa.eu	Unit responsible for nuclear and radiological issues Operations Department Counter Terrorism Unit – O4 For details go to USIE address book

Responsibilities and authorities

Europol is the European Union's law enforcement agency. Our aim is to help achieve a safer Europe by supporting the law enforcement agencies of European Union Member States in their fight against serious international crime and terrorism.

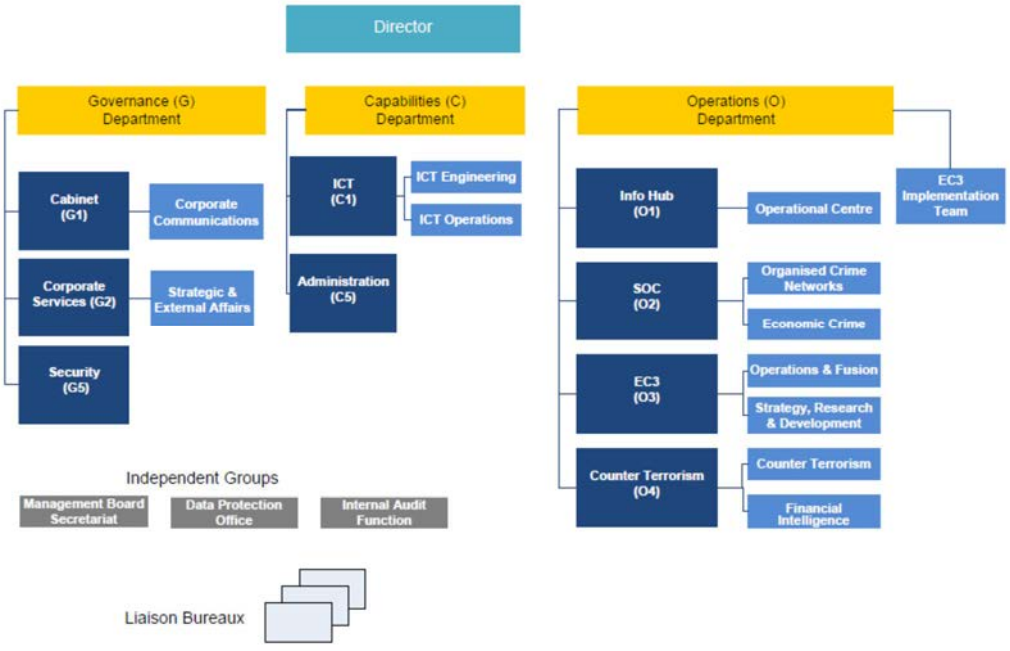
More than 750 staff at Europol headquarters in The Hague, the Netherlands, work closely with law enforcement agencies in the 27 EU Member States and in other non-EU partner states such as Australia, Canada, the USA and Norway.

Europol officers have no direct powers of arrest – they support law enforcement colleagues by gathering, analysing and disseminating intelligence and coordinating operations. Our partners use this input to prevent, detect and investigate offences, and to track down and prosecute those who commit them. Europol experts and analysts take part in Joint Investigation Teams which help solve criminal cases on the spot in EU countries.

Europol personnel come from different kinds of law enforcement agencies, including regular police, border police, customs and security services. This multi-agency approach helps to close information gaps and minimise the space in which criminals can operate.

Some 145 Europol Liaison Officers (ELOs) are based at Europol headquarters. These ELOs are seconded to Europol by the EU Member States and our non-EU partners. They guarantee fast and effective cooperation based on personal contact and mutual trust.

Organization



Capabilities and arrangements

EUROPOL develops EU-wide criminal intelligence, which allows the preparation of appropriate decisions and the finding of accurate measures in the fight against serious organised crime and terrorism.

Its added values are:

- Multi agency approach (law enforcement, security services, customs, etc)
- Multi language institution
- Quick information exchange
- European crime overview
- Investigation support (operational, technical, analytical)
- Expertise, training and European projects
- Research and development
- Legal platform for the management of EU-wide law enforcement databases
- Joint Investigative Teams

EUROPOL has arrangements for the following:

- 24/7 emergency system which involves liaison officers from all the EU member states and third states based presently at Europol as well as each unit within the Europol Operations Department
- Standard Operational Procedure for the activation of a contingency team

- Activation of the First Response Network at EU level.

Europol's Counter Terrorism Unit – 041 is responsible for nuclear and radiological related criminality, including, but not limited to, terrorist activity. In the event of a radiological emergency caused by a suspected or confirmed terrorist or criminal incident or threat, Europol could implement its contingency and business continuity plans. Among other measures, these plans include a 24/7 network of Europol staff and Liaison Officers of all EU Member States and Third States or organisations represented at Europol HQ. In addition, should the level of threat warrants more direct support, Europol could activate a First Response Team as a part of its First Response Network (FRN) mechanism.

The First Response Network is the reaction of MS competent authorities and Europol to a major terrorist incident. Based on consultation and agreement between the competent authority of the concerned MS and the Director of Europol, a team of experts will be called upon to assist a MS investigation during the first four to eight weeks and to facilitate the exchange of information and to assess other necessary measures related to the security of the EU and EU interests abroad.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

B

Address

Routine Contacts	Emergency Contact
Food and Agriculture Organization of the United Nations (FAO) Viale delle Terme di Caracalla I-00153 Rome, ITALY http://www.fao.org/ http://www-naweb.iaea.org/nafa/index.html	Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture For details go to USIE address book

Responsibilities and authorities

The Food and Agriculture Organization of the United Nations has statutory functions[63] that are relevant in preparing for, responding to, and providing assistance in the event of a nuclear or radiological incident or emergency. Namely, "the Organization collects, analyses, interprets and disseminates information relating to nutrition, food and agriculture (including fisheries, marine products, forestry and primary forestry products)." It also "promotes and, where appropriate, recommends national and international action with respect to [inter alia] the improvement of the processing, marketing and distribution of food and agricultural products; [and] the adoption of international policies with respect to agricultural commodity arrangements."

The function of the Organization is:

- to furnish such technical assistance as governments may request in the fields of agriculture and food;
- to organize, in co-operation with the governments concerned, such missions as may be needed to assist them to fulfil the obligation arising from…this Constitution;
- generally to take all necessary and appropriate action to…promote common welfare…for the purpose of raising levels of nutrition and assuring food security,

[63] Constitution of the Food and Agriculture Organization of the United Nations.

raising standards of life of the peoples under their respective jurisdictions; and securing improvements in the efficiency of the production and distribution of food …

- to partner and support member countries in dealing and having necessary capacity to respond to food and agriculture emergencies.

The FAO is a full party to the Early Notification and Assistance Conventions and as such, within its constitutional mandate to monitor and evaluate the world food security situation, "is competent to assess the qualitative and quantitative effects of all contaminants including radionuclides on food supplies, and to advise governments on acceptable levels of radionuclides appearing in agricultural, fisheries and forestry products entering national and international trade"[64]; and "is competent to advise governments on measures to be taken in terms of the agricultural, fisheries and forestry practices to minimize the impact of radionuclides and to develop emergency procedures for alternative agricultural practices and for decontamination of agricultural, fisheries and forestry products, soil and water"[65]. The FAO also provides related assistance upon the request or acceptance of governments, without prejudice to the national competence of each of its Member States.

With regard to its obligations as a Party to the Early Notification and Assistance Conventions, the FAO:

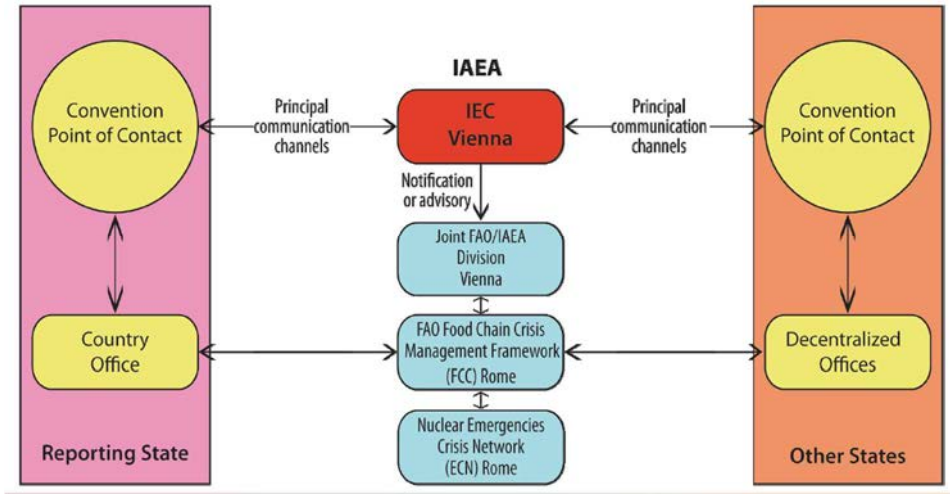
- co-operates…to facilitate prompt assistance in the event of a nuclear accident or radiological emergency to minimize its consequences and to protect life… from the effects of radioactive releases;
- may agree on bilateral or multilateral arrangements or, where appropriate, a combination of these, for preventing or minimizing injury and damage which may result in the event of a nuclear accident or radiological emergency;
- shall promptly decide and notify a requesting State Party, directly or through the IAEA, whether it is in a position to render the assistance requested, and the scope and terms of the assistance that might be rendered;
- shall, within the limits of its capabilities, identify and notify the IAEA of experts, equipment and materials which could be made available for the provision of assistance to other States Parties in the event of a nuclear accident or radiological emergency and the terms, especially financial, under which such assistance could be provided;
- should, where the assistance involves personnel, designate in consultation with the requesting State, the person who should be in charge of and retain immediate operational supervision over the personnel and the equipment provided by the personnel. The designated person should exercise such supervision in co-operation with the appropriate authorities of the requesting State;
- shall make known to the IAEA and to other States Parties, directly or through the IAEA, its competent authorities and point of contact authorized to make and receive requests for and to accept offers of assistance. Such points of contact…shall be available continuously, and shall promptly inform the IAEA of any changes that may occur in the information;

[64] Convention on Early Notification of a Nuclear Accident acceded 19 Oct. 1990.
[65] Convention on Assistance in the Case of a Nuclear or Radiological Emergency, acceded 19 Oct. 1990.

- shall protect the confidentiality of any confidential information that becomes available…in connection with the assistance in the event of a nuclear accident or radiological emergency; and
- shall make every effort to co-ordinate with the requesting State before releasing information to the public on the assistance provided in connection with a nuclear accident or radiological emergency.

Organization

The schematic chart below shows how IAEA and FAO co-operate to notify and provide assistance to States during an emergency:



Capabilities and arrangements

The FAO can provide assistance in 1) assessing radioactive contamination of the agricultural environment and especially foods; 2) applying operational intervention levels as an important tool in the control of intake of radioactive contamination; 3) providing technical advice to countries in the event of radioactive contamination in determining appropriate agricultural countermeasures for medium and long terms, and 4) facilitating international trade of foods (which includes agricultural produce).

It can supply the assistance through the provision of background guidance and scientific information, some financial and applied technical assistance on relevant actions and agricultural countermeasures, through the fielding of specialized teams and by providing, in co-operation with the IAEA, analytical services.

FAO addresses nuclear and radiological emergencies through the FAO Nuclear Emergencies Crisis Network of Technical Experts (ECN), which includes the FAO Emergency and Rehabilitation Division as well as concerned FAO Decentralized Offices as appropriate. The ECN is part of the FAO Food Chain Crisis Management Framework which manages all food chain crises under the leadership of the Assistant Director General of the FAO Agriculture and Consumer Protection Department. The ECN reports to an ECN Core Group at Directors level under the leadership of AGE. This ECN Core Group is responsible for the coordination of FAO response through the various Department and Division members of the ECN.

Under the cooperative arrangements between FAO and IAEA for information exchange and technical support in relation to food and agriculture in the case of a

nuclear or radiological emergency, the Joint FAO/IAEA Division (NAFA/AGE) is the FAO focal point and is expected to assign a liaison officer to staff the FAO desk in the IAEA Incident and Emergency Centre (IEC). The Joint FAO/IAEA Division coordinates and ensures dissemination of information between the IEC and ECN, and as the FAO liaison at the IEC, the Joint Division will report to the ECN Core Group.

Technical input will be drawn from relevant FAO units through the ECN Core Group. The essential aspects may be accessed on the Joint FAO/IAEA Division web site.[66] The FAO ECN Core Group responsibilities include:

- providing relevant technical information in response to requests from FAO Member States or Parties to the Early Notification and Assistance Conventions;
- ensuring that the FAO Regional, Sub-regional, Country Offices and Liaison Offices are kept informed of any emergency of relevance to them;
- providing information on countermeasures and decision support products which covers soil and land, forests, agricultural production including fisheries sector, animal health and welfare, food safety, and measures to facilitate trade;
- provision of support and technical assistance on food and agriculture issues for medium and longer term prevention of contamination or impact on agricultural development and rural populations;
- maintaining a database of experts; and
- participating in exercises and telecommunications drills.

B

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

Address

Routine Contacts

International Atomic Energy Agency
Vienna International Centre
P.O. Box 100
Wagramer Strasse 5
A-1400 Vienna, AUSTRIA
Tel. : +43 1 2600 22026 or 22745 or 21418
Fax : + 43 1 26007 29309
Email : iec3@iaea.org
http://www.iaea.org

Emergency Contact

Incident and Emergency Centre

USIE: protected IAEA emergency website:

https://iec.iaea.org/usie

For details go to USIE address book

Responsibilities and authorities

The Early Notification Convention and the Assistance Convention are the primary legal instruments that establish an international framework to facilitate the exchange of information and the prompt provision of assistance in the event of a nuclear or radiological emergency, with the aim of mitigating any consequences. These are supplemented by a number of mechanisms and practical arrangements established by the IAEA Secretariat, the IAEA's policy making organs and the meetings of competent authorities under the Early Notification and Assistance Conventions.

[66] http://www-naweb.iaea.org/nafa/index.html

Together, these instruments establish the IAEA emergency preparedness and response framework for nuclear and radiological incidents and emergencies[67].

In addition, the IAEA has statutory obligations to "establish… standards of safety for…protection of health and minimization of danger to life and property…and to provide for their application upon request". The safety requirements GS-R-2 imply expectations of the IAEA:

- to receive notifications from Member States of a transnational emergency and to inform States that may be affected;
- to facilitate States in obtaining information with the aim of minimizing the consequences;
- to maintain and disseminate appropriately an up-to-date list of contact points for receiving emergency notifications and information, and requests for assistance or verification[68] from the IAEA.

Under the Early Notification and Assistance Conventions the IAEA is assigned specific functions in case of a nuclear accident or radiological emergency, in particular:

- immediately after being notified of an event under the terms of the Early Notification Convention, to forthwith inform States Parties, Member States, and other States, that are or may be physically affected, and relevant international intergovernmental organizations, of a notification received;
- to promptly provide any State Party, Member State or relevant international organization with the information received (consistent with confidentiality constraints);
- to co-operate with States to facilitate prompt assistance to minimize consequences and to protect life, property and the environment from the effects of radioactive releases;
- to use its best endeavours … to promote, facilitate and support the co-operation between States Parties;
- to promptly transmit a request for assistance to other States and international organizations which may possess the necessary resources;
- if so requested by the requesting State, to co-ordinate the provision of requested assistance at the international level;
- to transmit requests for assistance and relevant information;
- to make available to a State Party or a Member State requesting assistance in the event of a nuclear accident or radiological emergency appropriate resources allocated for this purpose, including resources for conducting an initial assessment of the accident or emergency;
- to offer its good offices to the States Parties and Member States in the event of a nuclear accident or radiological emergency;
- to establish and maintain liaison with relevant international organizations for the purposes of obtaining and exchanging relevant information and data, and make a list of such organizations available to States Parties, Member States and the aforementioned organizations;
- to provide an up to date list of competent (national) authorities and (national) points of contact and points of contact of international organizations and provide it to State Parties, Member States and to relevant international organizations.

[67] This framework is implemented by the IAEA independent of whether or not the Early Notification and Assistance Conventions are invoked.
[68] The process of confirming that the information in a message is properly understood and accurate.

In addition, the IAEA:

- verifies rumours of nuclear or radiological emergencies and provide authoritative information to requesting Parties, without undue delay;
- ensures that Member States' representatives are appropriately briefed on any developing situation;
- ensures that there are frequent, accurate, and reliable releases of information to the media in co-ordination with the relevant States and other relevant international organizations;
- interacts with other relevant international or intergovernmental organizations to co-ordinate the response of international organizations to a nuclear accident or radiological emergency or a request for assistance;
- provides timely, factually correct, objective and easily understandable information including analysis of available official information, assessment of potential radiological consequences and prognosis of possible emergency progression;
- reviews the response by the notifying State and by affected States to identify areas where significant gaps in the response with regard to nuclear/radiation safety may exist, and in those cases, to offer the good offices and advice of the IAEA.

The IAEA has also specific obligations with regard to preparedness actions, namely:

- to collect and disseminate to States Parties and Member States information concerning i) experts, equipment and materials that could be made available in the event of nuclear accidents or radiological emergencies; ii) methodologies, techniques and available results of research relating to response to nuclear accidents or radiological emergencies;
- to assist a Member State when requested in preparing both emergency plans in the case of nuclear accidents or radiological emergencies and the appropriate legislation;
- to develop appropriate training programmes for personnel to deal with nuclear accidents and radiological emergencies (including radiation emergency medical training programmes and materials in co-operation with the WHO)
- to develop appropriate radiation monitoring programmes, procedures and standards;
- to conduct investigations into the feasibility of establishing appropriate radiation monitoring systems;
- to establish and maintain liaison with relevant international organizations for the purpose of obtaining and exchanging relevant information and data, and to make a list of such organizations available to States Parties, Member States and the aforementioned organizations;
- to maintain an up to date list of national authorities and points of contact and of points of contact of relevant international organizations and to provide it to States Parties and Member States and to relevant international organizations.

In support of its statutory obligations the IAEA:

- issues Safety Standards, guides and tools in emergency preparedness and response;
- issues associated training material and computer tools which form the basis of technical co-operation support;
- maintains a comprehensive emergency preparedness and response capacity building programme;
- provides assistance to Members States in their capacity building efforts;
- provides guidance for its Member States on emergency monitoring methods, procedures and strategies, and assists in the development of emergency plans and associated training material;

- provides legal advice to help Member States and States Parties conclude bilateral/multilateral agreements on emergency preparedness and response;
- offers an emergency preparedness review (EPREV) service to appraise the adequacy of national emergency planning arrangements and emergency exercises;
- organizes meetings, conferences and symposia in order to provide the opportunity for information exchange on the results of recent research, policy directions and guidance, practical arrangements, and consultation with Member States and States Party to the Conventions.

Supporting the implementation of the Assistance Convention the IAEA established, develops and maintains the IAEA Response and Assistance Network (RANET). RANET is a network of States capable and willing to provide assistance or advice in different areas of response to nuclear or radiological emergency ranging from emergency mitigation to consequence management and recovery operations.

Organization

The IAEA fulfils its roles through the IAEA's **Incident and Emergency System (IES)** and the **Incident and Emergency Centre (IEC)** as the IAEA's focal point for emergency preparedness and response and as custodian of the IES.

The IAEA actions that need to be implemented on a short-term basis are organized through: (1) a **warning point**, (2) an **on-call system**, (3) an **on-duty system** and (4) a **Steering Group**.

The **warning point** is a 24-hour manned communication centre through which incoming messages are received and acted on. Since the IEC is not normally continuously manned, the Security Control Centre of the United Nations Safety and Security Service serves as a warning point.

The **on-call system** ensures that initial response to any incoming message is timely and adequate. The following on-call officers shall be available to facilitate and coordinate initial response: an emergency response manager (ERM); a nuclear installation specialist; a radiation safety specialist; a nuclear security specialist; an external event specialist; and a logistics support officer. In addition, a public information officer shall be also available at all times.

The **on-duty system** ensures that the Secretariat's response is managed and coordinated from only one focal point within the Secretariat – the IEC. It consists of two modes of operations (activation levels) – commensurate with the nature and magnitude of the event/situation – and a set of response functions (on-duty officers). The modes of operation are as follows.

Normal/Ready mode: the IEC is the focal point for incoming messages. It is not staffed continuously. On-call officers are available to immediately respond. This mode includes all day-to-day activities designed to ensure readiness and is the default condition in which the IEC is maintained. The IEC will remain in this mode through initial discussions of any incoming message regarding a situation with apparent, suspected or potential radiological consequences, particularly before the situation is confirmed. Assistance missions may be deployed in response to a request for assistance.

Basic response mode: the IEC is not staffed continuously. On-call officers remain available to immediately respond to incoming messages. If appropriate, some staff may be activated and additional staff may be placed on standby and preparations may be implemented to move rapidly to Full response mode. Extra assessments are made

during office hours from staff activated by the IEC. Assistance missions may be deployed in response to a request for assistance.

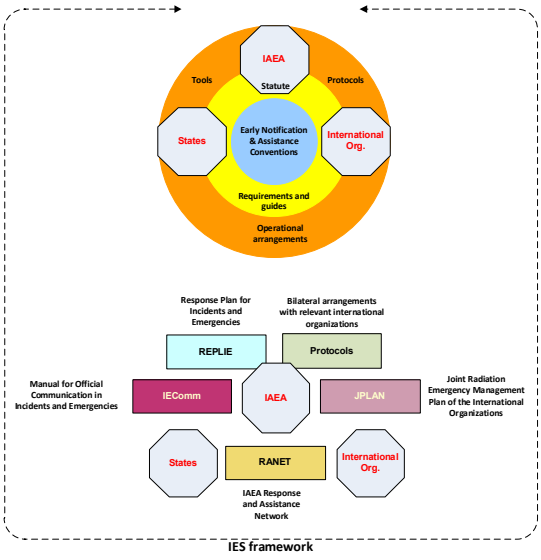
Full response mode: the IEC is staffed continuously (24 hours a day with shift changes) and manages the IAEA's response actions.

The **IES Steering Group** oversees the Secretariat's response and guides the response on matters of policy.

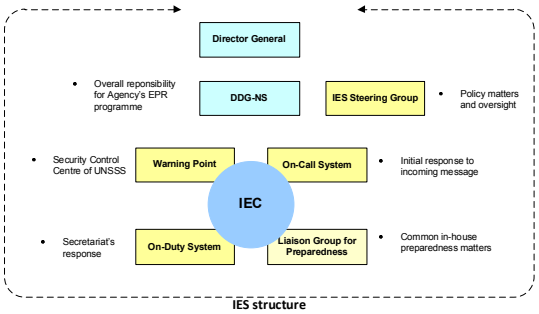
The figure below shows framework and structure of the IAEA's IES.

With regard to the interaction with other relevant international organizations during activation, several positions are relevant[69]:

The **International Organizations Liaison Officer** is the primary focal point and maintains lines of communications between the IAEA and other relevant organizations for the purposes of exchange of information and for sending and receiving offers of assistance from other organizations.



IES framework



IES structure

The **Emergency Response Manager** is the focal point for the operational and tactical management of the response.

The **Division of Public Information** is the focal point for co-ordination of any media and/or public information issues.

[69] See also IEComm: Operations Manual for Incident and Emergency Communication.

Overall responsibility for preparedness of the IAEA to respond to radiation emergencies, for developing Safety Standards on emergency preparedness and response and providing for their implementation in Member States is the responsibility of the Deputy Director General, Department of Nuclear Safety and Security. Head, Incident and Emergency Centre carries specific responsibility for the Secretariat's response preparedness.

Coordination of preparedness arrangements with other divisions are made through the Liaison Group for Preparedness.

Capabilities and arrangements

To fulfil its roles and responsibilities the IAEA has among others, qualified and trained human resources as well as a considerable logistic infrastructure. In particular it may engage teams of technical experts and appropriate logistics support including emergency funds, reliable telecommunications system with high degree of redundancy, full and secure Internet capabilities, databases, arrangements for rapid field deployment with appropriate monitoring equipment for round the clock operation if needed.

To achieve sound proficiency in response a comprehensive in-house training programme is maintained (exercises are used to evaluate performance of assigned response personnel). In addition, the IEC prepares annual exercise programme (ConvEx exercises) for Member States and international organizations that is made available on protected IAEA web site termed *Unified System for Information Exchange in Incidents and Emergencies*. The IAEA has also cooperative arrangements (protocols) with relevant international organizations as well as a Memorandum of Understanding with OCHA[70].

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Within these protocols arrangements are agreed that in response to emergencies organizations may send their liaison officers to the IEC to speed up coordination process.

Memorandum of Understanding encompasses the specific responsibilities of OCHA and IAEA in a nuclear accident or radiological emergency; disaster related activities in respect of which OCHA and IAEA will co-operate; requests for disaster relief assistance; joint action in the field and missions to disaster areas; exchange of information; confidential information; and financial arrangements. In particular, it recognizes that OCHA's role is that of an overall co-ordinator of all aspects of disaster relief assistance, and that the IAEA has operational responsibilities for coordinating relevant technical and scientific assistance following a radiation emergency. On request, the IAEA will advise OCHA about any special precautions or preparations which should be taken or made by relief personnel. In a disaster situation following a radiation emergency, the IAEA will arrange for members of its staff to join any UNDAC team, and to be responsible for the assessment of relevant technical and scientific requirements. OCHA will, at its discretion, send representatives to the disaster area for on the spot assessment of emergency relief requirements other than those of a technical or scientific nature.

[70] Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

Address

Routine Contact

International Civil Aviation Organization
999 University Street
Montreal, Quebec, Canada
H3C 5H7
http://www.icao.int/

Emergency Contact

For details go to USIE address book

Responsibilities and authorities

The ICAO is an organization based on the Convention on Civil Aviation signed in 1944. It became a specialized agency of the United Nations in 1947. The aims and objectives of ICAO are to develop standards and recommended practices for international air navigation and to foster the planning and development of international air transport so as to: a) ensure the safe and orderly growth of international civil aviation throughout the world; b) encourage aircraft design and operation for peaceful purposes; c) encourage the development of airways, airports, and air navigation facilities for international civil aviation; d) meet the needs of the people of the world for safe, regular, efficient and economical transport; e) prevent economic waste caused by unreasonable competition; f) ensure that the rights of Contracting States are fully respected and that every Contracting State has a fair opportunity to operate international airlines; g) avoid discrimination between Contracting States; h) promote safety of flight in international air navigation; and i) promote generally the development of all aspects of international civil aeronautics.

The following responsibilities are attributed to Contracting States and to the meteorological offices and/or air traffic service units operated by them by virtue of provisions in ICAO Annex 3 — *Meteorological Service for International Air Navigation,* Annex 11 – *Air Traffic Services*, and Annex 15 – *Aeronautical Information Services* to the Convention on International Civil Aviation:

- for world area forecast centres (WAFC) to receive information concerning the accidental release of radioactive material into the atmosphere, originating from its associated WMO regional specialized meteorological centre (RSMC) for the provision of transport model products for radiological environmental emergency response, in order to include reference to the information received in significant weather forecasts;
- for volcanic ash advisory centre (VAAC) London, as focal point., to receive information concerning the accidental release of radioactive material into the atmosphere, originating from WMO RSMC Exeter, in order to notify area control centres (ACC) concerned about the release;
- for meteorological watch offices (MWOs) to supply information received concerning the accidental release of radioactive materials into the atmosphere, for its area of responsibility in the form of a SIGMET message for the radioactive cloud, to its associated area control centre (ACC) and flight information centre (FIC), as agreed between the meteorological and air traffic services (ATS) authorities concerned, and to aeronautical information service units, as agreed between the meteorological and appropriate civil aviation authorities concerned;
- for ATS units to disseminate the information received to aircraft in flight or to aircraft about to depart for the affected flight information regions (FIR).

Organization

The pertaining details of an accidental release of radioactive materials into the atmosphere – such as the nature, time and exact location of the accident – are to be provided by the IAEA to the WMO warning point for onward distribution to the regional specialized meteorological centres (RSMC) concerned. Subsequently, this information, together with forecast charts detailing the trajectory and definition of radioactive material in the atmosphere is promptly disseminated from the WMO RSMCs to meteorological offices providing service for international air navigation for onward communication to ACC/FIC, aerodromes and airspace users. ACCs concerned will notify their associated international NOTAM Office (NOF) in order to issue the corresponding notice to airmen (NOTAM) related to the hazard, which is essential for personnel concerned with flight operations. The inclusion of static data on potential hazards is included in a Contracting State's aeronautical information publication (AIP). In addition, the information provided by the IAEA to the WMO warning point for onward distribution to WMO RSMC Exeter, which is co-located with volcanic ash advisory centre (VAAC) London, is included in a notification message to ACCs/FICs concerned issued by VAAC London. A symbol indicating "radioactive materials in the atmosphere" is included in the WAFS significant weather forecast charts issued by the world area forecast centres (WAFC).

There are no Secretariat personnel assigned for the communication of information to aircraft in flight and at aerodromes during a real-time emergency. Instead, the necessary operational response is undertaken by the concerned meteorological offices and/or air traffic service units in ICAO Contracting States, as per internationally agreed ICAO provisions. The governing ICAO regulatory provisions are displayed in the figure below.

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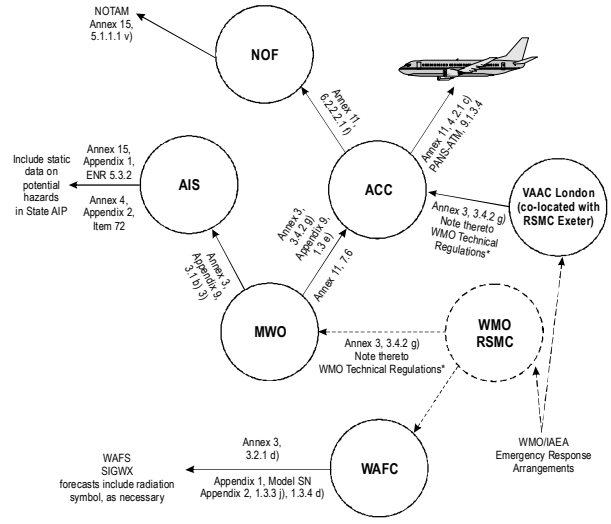


*In practice, this information is disseminated to MWOs through NMCs.

Capabilities and arrangements

The procedures for the initial notification of meteorological offices and/or air traffic service units providing service for international air navigation that an accident has occurred were developed between IAEA and ICAO, in co-ordination with the WMO.

ICAO Annexes 3, 11 and 15 to the Convention on International Civil Aviation provide the principle standards and recommended practices concerning aeronautical and meteorological service to international air navigation during a

radiation emergency. These international provisions are supported by, *inter alia*, ICAO guidance and regional air navigation plans, which detail, as necessary, the capabilities of Contracting States.

INTERPOL

Address:

Routine Contacts	Emergency Contact
INTERPOL General Secretariat 200, Quai Charles de Gaulle, 69006 Lyon FRANCE http://www.interpol.int	Command and Coordination Center For details go to USIE address book

Responsibilities and Authorities

INTERPOL is the world's largest international police organization, with 190 member countries. It facilitates cross-border police co-operation, and supports and assists all organizations, authorities and services whose mission is to prevent or combat international crime.

The General Secretariat - located in Lyon, France operates 24 hours a day, 365 days a year and is run by the Secretary General. Officials from more than 80 countries work side-by-side in any of the organization's four official languages: Arabic, English, French and Spanish. The Secretariat has seven regional offices; in Argentina, Cameroon, Côte d'Ivoire, El Salvador, Kenya, Thailand and Zimbabwe, and three liaison offices at the United Nations in New York, the European Union in Brussels, and Europol in The Hague. In 2014 the INTERPOL GLOBAL COMPLEX for INNOVATION (IGCI) is scheduled to open in Singapore. It will complement the General Secretariat headquarters in Lyon, France. Its purpose is to enhance INTERPOL's capability to tackle the crime threats of the 21st century and strengthen international policing worldwide, notably by:

- Innovative research and development to enhance forensics and database capabilities, particularly in the identification of crimes and criminals;
- Addressing the demand for technology and innovation-based capacity building and training;
- Enhancing INTERPOL's capacity to provide 24/7 operational support to police across time zones and distances with greater mobility.

Each INTERPOL member country maintains a National Central Bureau staffed by national law enforcement officers. The NCB is the designated contact point for the General Secretariat, regional offices and other member countries requiring assistance with overseas investigations and the location and apprehension of fugitives.

The organization's I-24/7 global police communications system connects law enforcement officials in all 190 member countries and provides them with the means to share crucial information on criminals and criminal activities.

As criminals and criminal organizations are typically involved in multiple activities, I-24/7 can fundamentally change the way law enforcement authorities around the world work together. Pieces of seemingly unrelated information can help create a picture and solve a trans-national criminal investigation.

Using I-24/7, National Central Bureaus (NCBs) and some field police units can search and cross-check data in a matter of seconds, with direct access to databases containing information on suspected terrorists, wanted persons, fingerprints, DNA profiles, lost or stolen travel documents, stolen motor vehicles, stolen works of art, etc. These multiple resources provide police with instant access to potentially important information, thereby facilitating criminal investigations.

INTERPOL's databases and services ensure that police worldwide have access to the information and services they need to prevent and investigate crimes. INTERPOL manages several databases, accessible to the INTERPOL bureaus in all member countries through its I-24/7 communications system, which contain critical information on criminals and criminality. These include:

- Suspected terrorists
- Nominal data on criminals (names, photos)
- Fingerprints
- DNA profiles
- Lost or stolen travel documents
- Child sexual abuse images
- Stolen works of art
- Stolen motor vehicles

INTERPOL supports law enforcement officials in the field with emergency support and operational activities, especially in its priority crime areas of fugitives, public safety and terrorism, drugs and organized crime, trafficking in human beings and financial and high-tech crime. When necessary, INTERPOL can deploy an Incident Response Team (IRT) to support a country or countries in whatever tasks that are request. If existing General Secretariat staff are unable to fulfil the requirements of the requesting country, INTERPOL can request support from its member countries to provide staff to the IRT, who will be managed by and fall under the responsibility of INTERPOL during their work on the IRT. The IRT, with Disaster Victim Identification experts, composed of officers from the General Secretariat and member countries can be dispatched to the scene within hours of an event.

Another component of this core function is the INTERPOL notice system, which serves to alert police of fugitives, suspected terrorists, dangerous criminals, missing persons or weapons threats. There are currently six colour-coded notices – Red, Blue, Green, Yellow, Black and Orange – and the INTERPOL-United Nations Special Notice issued for groups or individuals who are the targets of UN sanctions against Al Qaeda and the Taliban.

INTERPOL's CBRNE Terrorism Prevention Programme (CBRNE TPP)

The CBRNE TPP was established in 2010 and built upon the foundation of the Bio Terrorism Prevention Programme, which now forms a part of the CBRNE TPP. The programme, consists of three distinct strands: the original Biological

Terrorism Prevention Unit (Bio TPU); the Radiological & Nuclear Terrorism Prevention Unit (Rad Nuc TPU); and the Chemical & Explosive Terrorism Prevention Unit (Chem Ex TPU). The INTERPOL CBRNE Terrorism Prevention Programme's mission is to counter the CBRNE terrorist threat through the provision of intelligence and threat analysis, together with a programme of awareness training and capability/capacity building to the member countries of INTERPOL. Additionally it provides access to specialized expertise in this particular field of law enforcement.

The INTERPOL CBRNE Intelligence Report is published monthly and incorporates Project GEIGER, which is the Radiological/Nuclear analytical database that is produced in partnership with the IAEA and EUROPOL.

In support of the 2012 International Nuclear Security Summit held in Seoul, Republic of Korea INTERPOL initiated Operation FAIL SAFE as an international operational support initiative to increase global nuclear security.

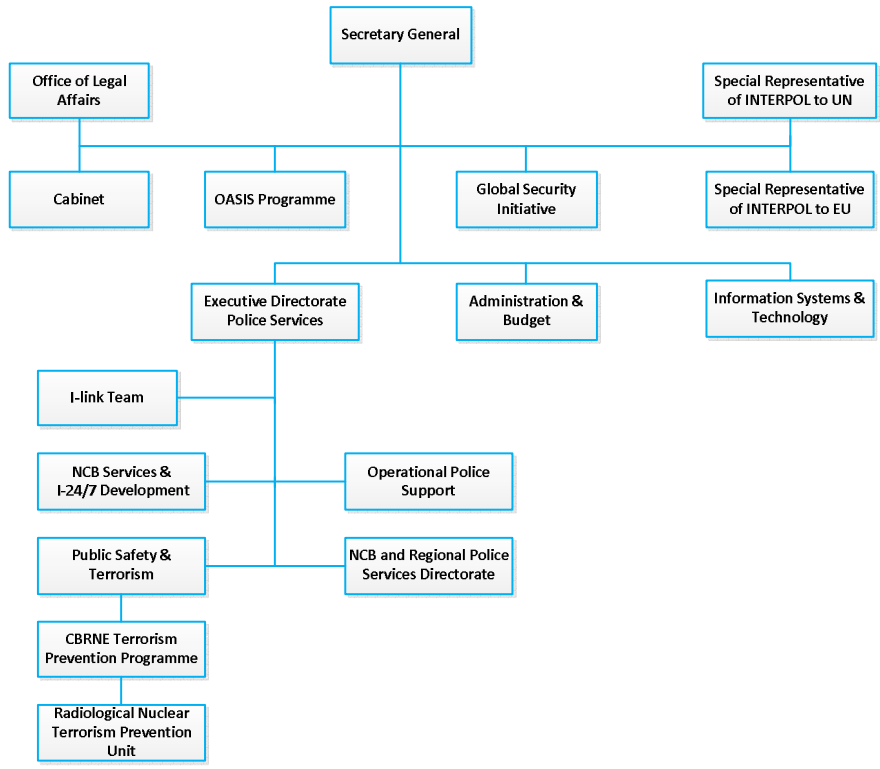
Operation FAIL SAFE introduces a new capability to the international law enforcement community to track the movements of individuals involved in the trafficking of radioactive or nuclear material and will leverage existing INTERPOL tools and processes including the I-24/7 network; the INTERPOL system of Regional Bureaus, NCBs, the General Secretariat; the CCC; i-Link and the Notices system to identify and track individuals involved in the trafficking of radioactive or nuclear materials. The main tool to inform member countries about these individuals will be the Green Notice, which will alert countries to an individual's involvement in the trafficking of radioactive or nuclear material upon query, with additional information provided in conjunction with the NCBs through their participation in Operation FAIL SAFE.

The Criminal Analysis Unit contributes to investigations by assisting officers working at the General Secretariat and in member countries with research and analysis on crime trends. The unit also provides training courses in criminal analysis techniques for member countries.

The Command and Co-ordination Centre (CCC) operates round the clock in all of INTERPOL's four official languages namely English, French, Spanish and Arabic (Operations Room) and serves as the first point of contact for any member country faced with a crisis situation (Crisis and Major Events Room). The CCC can also assume a co-ordination role if an attack or disaster involves several member countries or if a member country's own ability to do so has been compromised.

There are various other services the CCC provides, including the deployment of an INTERPOL Major Event Support Team, the publishing of Orange Notices, which are used to warn police, public institutions and other international organizations about potential threats posed by fugitive terrorists, disguised weapons, parcel bombs and other dangerous objects or materials.

Organization



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Capabilities and arrangements

Through its CBRNE TPP, INTERPOL conducts a range of activities and develops capabilities that contribute to the prevention and preparedness of nuclear and radiological emergencies. These include:

- Criminal intelligence assessments of criminal and terrorists and their search for, possession of, and potential use of weapons of mass destruction including nuclear and radiological devices.
- Issuance of international search and arrest warrants for terrorists and other criminals who might be involved in the trafficking or use of radiological or nuclear devices.
- Receipt and forwarding of messages from national police forces through the NCBs of stolen or recovered radioactive material, primarily when there is an international crime aspect to the incident.
- Publication and distribution of good practice and training in anti-corruption techniques for law enforcement personnel which could include authorities who would be involved in the handling, monitoring, and/or enforcement of radioactive or nuclear materials.
- Issuance of Green Notices under the auspices of Operation Fail Safe concerning persons known or suspected of being involved in trafficking nuclear or other radioactive material.
- Issuance of Orange Notices information about possible thefts, trafficking, or missing nuclear or other radioactive material.
- Facilitating face-to-face meetings, communication, and teamwork among law enforcement personnel worldwide to build formal and informal networks that can be utilized to respond to radiological or nuclear emergencies.

INTERNATIONAL MARITIME ORGANIZATION (IMO)

Address

Routine Contact

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International Maritime Organization
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London SE1 7SR
UNITED KINGDOM
Tel: + 44 20 7735 7611
+ 44 20 7587 3163
Fax: + 44 20 7587 3210
Email: info@imo.org
http://www.imo.org

Emergency Contact

For details go to USIE address book

Responsibilities and Authorities

The International Maritime Organization is the specialized UN agency responsible for measures to improve the safety and security of international shipping and to prevent marine pollution from ships. It is also involved in legal matters, including liability and compensation issues and the facilitation of international maritime traffic. The IMO is the Secretariat to a wide array of international conventions governing all aspects of shipping, several of which are related to the transportation of nuclear substances by ship and to prevention, preparedness and response to pollution incidents from ships.

The International Maritime Organization has general responsibilities relevant to emergency response in accordance with the OPRC Convention 1990[71] and it's HNS Protocol[72]. The HNS Protocol, in particular, although not explicitly stating so, would, by its definition of hazardous and noxious substances, also normally extend to marine pollution incidents involving nuclear and radioactive substances occurring at sea or in port. The HNS Protocol entered into force in June 2007.

Under the provisions of the HNS Protocol 2000:

- *Pollution incident by hazardous and noxious substances* (hereinafter referred to as "pollution incident") means any occurrence or series of occurrences having the same origin, including fire or explosion, which results or may result in a discharge, release or emission of hazardous and noxious substances and which poses or may pose a threat to the marine environment, or to the coastline or related interests of one or more States, and which requires emergency action or immediate response; and

- *Hazardous and noxious substances* means any substance other than oil which, if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

[71] International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990
[72] Protocol on Preparedness, Response and Co-operation to Pollution incidents by Hazardous and Noxious Substances, 2000

IMO's responsibilities under the provisions of the HNS Protocol 2000 during an emergency are to perform the following functions and activities, resources permitting, when requested by a Party to do so:

- to receive, collate and disseminate on request the information provided by Parties and relevant information provided by other sources;
- to analyse the information provided by Parties and relevant information provided by other sources and provide advice or information to States;
- to facilitate the provision of technical assistance and advice, upon the request of States faced with major pollution incidents; and
- to provide assistance in identifying sources of provisional financing of the costs of assistance for the provision of advisory services, technical support and equipment for the purpose of responding to a pollution incident, when the severity of the incident so justifies.

As provided for under the 1973 Intervention Protocol[73], the IMO also maintains an up-to-date list of recognized regional centres of expertise with specialised oil and/or HNS preparedness and response, as a source of potential experts for rapid deployment, if required.

While these are the specific responsibilities of the Organization as identified in the Protocol, the IMO is more generally available to:

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- co-operate with other agencies and organizations to facilitate the delivery of assistance in the event of a nuclear accident or radiological emergency involving or affecting a vessel(s) at sea or in port;
- serve as a liaison and channel for communications with the maritime community, in the event of a nuclear emergencies or radioactive incidents at sea or in port; and
- facilitate access to specific technical information and expertise with national maritime focal points and the maritime community at large.

Organization

The International Maritime Organization, through its Marine Environment Division, has the responsibility for the Organization's role and activities related to emergency preparedness and response to marine pollution incidents.

The professional staff of the Organization consists of technical, scientific and legal staff with particular knowledge on issues related and protection of the marine environment (prevention of pollution from ships, ballast water management, preparedness and response, etc.) and to maritime safety (ship design and construction, safety of navigation, carriage of cargo, etc.).

The Organization maintains direct contact and continuous liaison with the competent authorities of Member States, national maritime authorities and regional maritime organizations, all of which can be accessed and called upon in the event of an emergency.

[73] International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969

Capabilities and arrangements

The mission of the International Maritime Organization (IMO) is safety and security of international shipping and protection of the marine environment from pollution from shipping. The Organization has no specifically defined role with respect to preparedness and response to nuclear incidents, but has developed safety codes, standards and guidelines for nuclear cargoes and nuclear-powered ships for the prevention of such incidents, which in certain cases, also covers elements of preparedness. These include:

1. International Convention for the Safety of Life at Sea (SOLAS), 1974

    - Chapter VII – Carriage of dangerous goods, Part D, which includes special requirements for the carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes on board ships and requires ships carrying such products to comply with the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code); and

    - Chapter VIII, which gives basic requirements for nuclear-powered ships and is particularly concerned with radiation hazards. It refers to the detailed and comprehensive Code of Safety for Nuclear Merchant Ships.

2. Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (NUCLEAR), 1971, provides that a person otherwise liable for damage caused in a nuclear incident shall be exonerated for liability if the operator of the nuclear installation is also liable for such damage by virtue of the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy; or the Vienna Convention of 21 May 1963 on Civil Liability for Nuclear Damage; or national law which is similar in the scope of protection given to the persons who suffer damage.

3. Code of Safety for Nuclear Merchant Ships, 1982. This Code (resolution A.491(XII)) was developed as a guide for Administrations on internationally accepted safety standards for the design, construction, operation, maintenance, inspection, salvage and disposal of nuclear merchant ships.

4. Safety Recommendations on the Use of Ports by Nuclear Merchant Ships, 1980. This publication provides guidance to host government authorities and host port authorities on the recommended precautionary measures to be considered when assessing the suitability of a port to receive nuclear merchant ships fitted with pressurized water reactors.

The Organization also has some basic internal capacity in terms of preparedness for and response to pollution incidents from ships and manages this role through its Marine Environment Division. Emergency functions include tracking of incidents, information gathering, reporting, and, on occasion, mobilization of resources and technical assistance upon request by Member States. IMO does not have 24/7 capability.

Furthermore, through its OPRC-HNS Technical Group, a subsidiary body of one of IMO's main Committees composed of technical experts from Member States and observing organizations, IMO develops tools, resources, manuals and guidance documents to help countries ratify and implement the OPRC Convention and its

HNS Protocol and to improve preparedness and response to oil and HNS incidents at the national and international level. One example of the types of manuals produced by this group is the Manual on Chemical Pollution – Section 2, Search and recovery of packaged goods lost at sea, which also covers the loss of packaged radioactive materials.

In addition, IMO promotes and assists Member States' preparedness efforts through its Integrated Technical Cooperation Programme (ITCP), created for the sole purpose of assisting countries in building up their human and institutional capacities for compliance with IMO's regulatory framework, including the OPRC Convention 1990 and its OPRC-HNS Protocol 2000, which collectively address preparedness, response and co-operation to oil spills and releases of HNS into the marine environment.

NUCLEAR ENERGY AGENCY OF THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (NEA)

Address

Routine Contact	Emergency Contact
OECD Nuclear Energy Agency Le Seine St-Germain 12, boulevard des Iles 92130 Issy-les-Moulineaux France http://www.oecd-nea.org	Radiation Protection and Radioactive Waste Management Division For details go to USIE address book

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Responsibilities and authorities

The fundamental mission of the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD) is to assist its Member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for the safe, environmentally friendly and economical use of nuclear energy for peaceful purposes. In order to achieve this, the NEA works as: a forum for sharing information and experience and promoting international co-operation; a centre of excellence which helps Member countries to pool and maintain their technical expertise; a vehicle for facilitating policy analyses and developing consensus based on its technical work.

The NEA has no statutory operational role in the response to nuclear emergency situations, but has, for many years, been actively involved in efforts to improve nuclear accident emergency planning, preparedness and management at the international level, in particular through the development, conduct and evaluation of the International Nuclear Emergency Exercise (INEX) series.

Organization

The NEA is governed by the Steering Committee for Nuclear Energy, the governing body of the NEA – which reports directly to the OECD Council. The Committee is composed of senior representatives of governments which are Members of the Agency. It oversees and shapes the work of the Agency to ensure its responsiveness to member countries' needs, notably in establishing the biennial programmes of work and budgets and approving the mandates of the Agency's seven standing technical committees. The standing technical committees are primarily composed of member country experts and technical specialists. These committees constitute a unique feature

and important strength of the NEA, providing flexibility for adapting to new issues and helping to achieve consensus rapidly.

The Steering Committee for Nuclear Energy and the Agency's standing technical committees are serviced by the NEA Secretariat. Responsibilities for NEA's nuclear emergency matters programme, including interfaces with the IACRNE, lie within the NEA's Radiation Protection and Radioactive Waste Management Division.

Capabilities and arrangements

The NEA's Committee on Radiation Protection and Public Health (CRPPH) established a standing Working Party on Nuclear Emergency Matters (WPNEM) to discuss current developments and future activities in the area of nuclear emergency management with NEA Member countries and international organizations. The mission of the working party is to improve nuclear emergency management systems (planning, preparedness, response and recovery) within member states and to share its knowledge and experience widely. Within this framework, the NEA:

- provides a forum for experts in emergency response to share information and experience in all aspects of emergency management systems, identify emerging issues, and develop and test innovative ideas, approaches and concepts to facilitate international and national emergency management, beyond the context of the legal requirements of the early notification and assistance conventions;
- addresses issues across the entire spectrum of nuclear and radiological emergency and recovery management, identify gaps and provide recommended strategies to improve nuclear emergency management worldwide
- develops follow-up strategies, through workshops and expert group meetings, to address identified issues and to formulate new approaches for international testing;
- participates, as appropriate, in the development, planning, preparation and organization of international nuclear emergency exercises, jointly sponsored by the IAEA, the EC, WHO, WMO and any other interested international organization;
- participates in the overall assessment and analysis of lessons identified from such exercises
- upon request of the NEA Member State, coordinates international peer reviews (information exchange meetings) of national level emergency management policies.

The WPNEM develops its programme of work based on identifying and analysing areas for improvement in emergency management systems, in co-ordination with member states and other related organisations. With the mandate from the representatives of NEA Member countries on CRPPH, the NEA:

- develops, organises, evaluates and analyses the International Nuclear Emergency Exercise (INEX) series exercises to address best practices and identify areas for improvement in nuclear/radiological emergency management systems;
- provides a framework for validation of relevant products aimed at improving emergency management systems, developed under other coordinated activities;
- identifies and investigates as appropriate further advancements in all aspects of emergency planning, preparedness, response and recovery for nuclear accidents and radiological emergencies;
- provides input as appropriate for the development of international standards and recommendations on emergency management;
- develops, co-ordinates and evaluates NEA objectives for inclusion in international exercises such as those organised under the auspices of the IACRNE;

- issues scientific reports, strategy documents, workshop proceedings and other products to broadly share information on advancements in emergency planning, preparedness and response.

The OECD/NEA is a cosponsoring organization of the *"IAEA Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards* – Interim Edition, IAEA Safety Standards, General Safety Requirements Part 3, No. GSR Part 3 and of the *"Safety Requirements: Preparedness and Response for a Nuclear or Radiological Emergency"* issued by the IAEA. The NEA co-sponsors the *International Nuclear and Radiological Event Scale* (INES), developed by the NEA and IAEA in 1990 with the aim of communicating the safety significance of reported nuclear and radiological incidents and accidents. NEA, with IAEA and the World Association of Nuclear Operators (WANO) also co-sponsors the *Nuclear Events Web-based System* (NEWS).

Finally, the NEA, through its Nuclear Law Committee, works on the interpretation, implementation, improvement and modernisation of the international nuclear liability regime, primarily through a consideration of the:

- Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960[74] *(Paris Convention)*,
- Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960[74] *(Brussels Convention Supplementary to the Paris Convention)*, and
- Joint Protocol of 21 September 1988 relating to the Application of the Vienna Convention and the Paris Convention.

B

Pan American Health Organization (PAHO)

Address

Routine Contact	Emergency Contact
Pan American Health Organization 525 23rd Street, NW Washington, DC 20037 USA http://www.paho.org	Emergency Operations Center Area of Emergency Preparedness and Disaster Relief For details go to USIE address book

Responsibilities and Authorities

The Pan American Health Organization (PAHO) was founded in 1902 and enjoys international recognition as a specialized health agency of the Organization of the American States and as part of the United Nations system, serving since 1949 as the Regional Office for the Americas of the World Health Organization.

PAHO has more than 2000 staff members between its headquarters in Washington, D.C., its 27 country offices, and its nine scientific centres, all working primarily with the countries of Latin America and the Caribbean in dealing with priority health issues.

According to PAHO constitution, the Governing Bodies set the organization's mandates. For emergency preparedness and response and to formulate plans of action for various types of disasters, and in regards to radiation safety standards, which address nuclear and radiological emergencies, the following resolutions were approved:

[74] As amended by the Additional Protocol of 28 January 1964, by the Protocol of 16 November 1982, and by the Protocol of 12 February 2004.

1980: "To assist the health sectors of Member Countries in the development of disaster preparedness programs also in case of natural or technological disasters of public health importance."

1985: "To strengthen the Organization's technical co-operation and co-ordination in preparing the health sector to respond effectively to health problems caused by technological disasters, such as explosions and chemical accidents, as well as by displacements of large population groups caused by natural or man-made disasters."

1987: "To strengthen member countries' health emergency preparedness programmes prior to a disaster by allocating the necessary personnel and budget according to the vulnerability of the country to natural disasters, chemical or nuclear accidents, or other emergency situations likely to affect the public health."

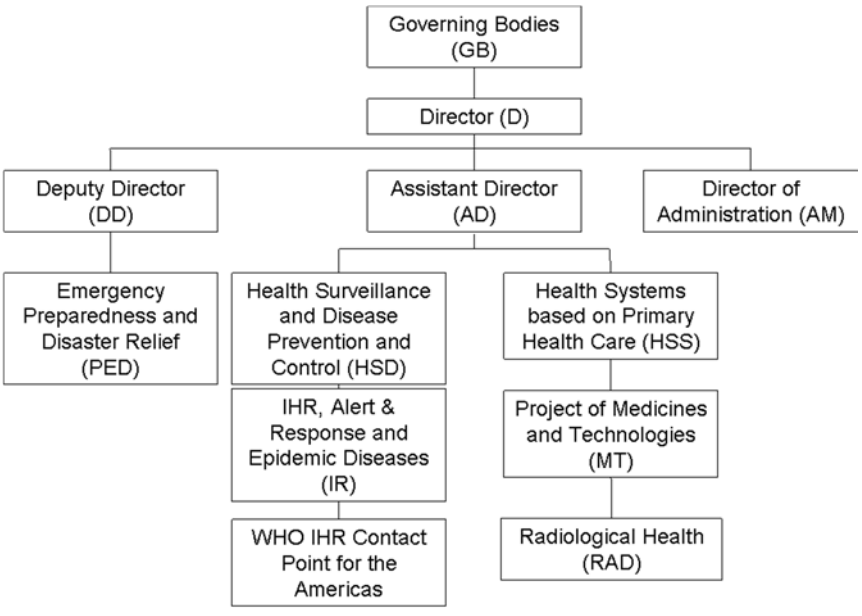
2007: "To urge Member States to (b) Strengthen the capacity of the IHR-NFP for intersectoral collaboration in both the dissemination of information and the consolidation of input from all relevant sectors;"

2012: ".To endorse the new standards for Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards."

"To urge Member States to draw upon the orientation that these standards give when they establish or update national rules or regulations and operating criteria in the area of radiation safety."

"To request the Director, in accordance with the availability of resources in the Organization, to continue to cooperate with the Member States in the development, adoption, and implementation of national radiation safety plans in accordance with the aforementioned international basic standards"

Organization



Capabilities and arrangements

In the area of radiation emergencies, three programmes are collaborating closely: Radiological Health (RAD), within the Project of Medicines and Technologies

(HSS/MT), the Area of Emergency Preparedness and Disaster Relief (PED), and the Project of IHR, Alert and Response and Epidemic Diseases (HSD/IR).

PAHO initiated radiological health programmes in the 1950s. RAD currently has three lines of work: a) radiology services, b) radiation safety, and c) radiological emergencies. PED has more than 25 years of experience in response to all types of disasters — natural, man-made and complex — to which the Region of the Americas is vulnerable. HSD/IR is housing the WHO IHR Contact Point for the 35 States Parties in the Americas.

Should a radiation emergency occur in the United States and Canada, PAHO's 38 Member States will perceive its role at the international level as purely informational. Should a radiation emergency occur in a Latin American or Caribbean country, the Ministries of Health are likely to request PAHO to provide technical experts, while multisectoral disaster institutions such as civil defence/protection, foreign affairs or others may request support to co-ordinate the international response in the public health and medical fields. This technical co-operation will also be provided through consultation with WHO Collaborating Centres in the Americas.

PAHO's capacity related to radiation emergencies alert and response include the following:

- In compliance with IHR provisions related to the public health early warning and response functions, in its capacity of WHO IHR Contact for the Region of the Americas, PAHO contributes to the detection of public health risk/events associated with radiation hazards, health related risk assessment, and information dissemination, including alerts, to national health authorities and health professionals through secure and public channels;
- PAHO can additionally contribute to response activities by supporting emergency co-ordination, health related need assessment, mobilization of a cadre of experts from among a wide variety of health related disciplines;
- PAHO can support its Member States in their health related recovery efforts following a radiation emergency

Additional activities conducted and/or supported by PAHO related to prevention and preparedness for radiation emergencies include:

- strengthening national radiation safety programmes;
- provision of guidelines for the organization and development of imaging, and radiotherapy services;
- strengthening national institutions to develop programmes for the planning, operation, maintenance, and renovation of the physical and technological infrastructures;
- promotion of legislation/regulations on the authorization of radiation sources and practices that represent potential exposures;
- development of national policies on radioactive waste management;
- calibration of radiation beams for diagnosis and treatment;
- review of physical and clinical dosimetry;
- location, characterization and conditioning of radioactive sources;
- development and implementation of quality control and quality assurance programmes, including audits;
- participation and/or organization of radiological/nuclear simulation exercises
- facilitation of lessons learned exercises.

The lessons identified from actual disaster operations can be incorporated into high level training programmes and these perishable data may be preserved in the form of publications and training materials in the Regional Disaster Information Centre.

The compilation of formal and informal literature regarding emergencies and radiological/nuclear accidents may be made available on the web site http://www.crid.or.cr/crid/ing/index_ing.html.

UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

Address

Routine Contact	Emergency Contact
Office for the Coordination of Humanitarian Affairs (OCHA) Palais des Nations, D-114 1211 Geneva 10, Switzerland Tel: +41 (22) 917 1142 / 1815 http://www.unep.org	Joint UNEP/OCHA Environment Unit /Environmental Emergencies Section Emergency Services Branch For details go to USIE address book

Responsibilities and authorities

The Joint UNEP/OCHA Environment Unit is a partnership between the United Nations Environment Programme (UNEP) and the UN Office for the Coordination of Humanitarian Affairs (OCHA) that serves as the integrated United Nations emergency response mechanism to activate and provide international assistance to countries facing environmental emergencies.

The role of the Joint Unit is to rapidly mobilize and coordinate emergency assistance and response resources to countries facing environmental emergencies and natural disasters with significant environmental impacts.

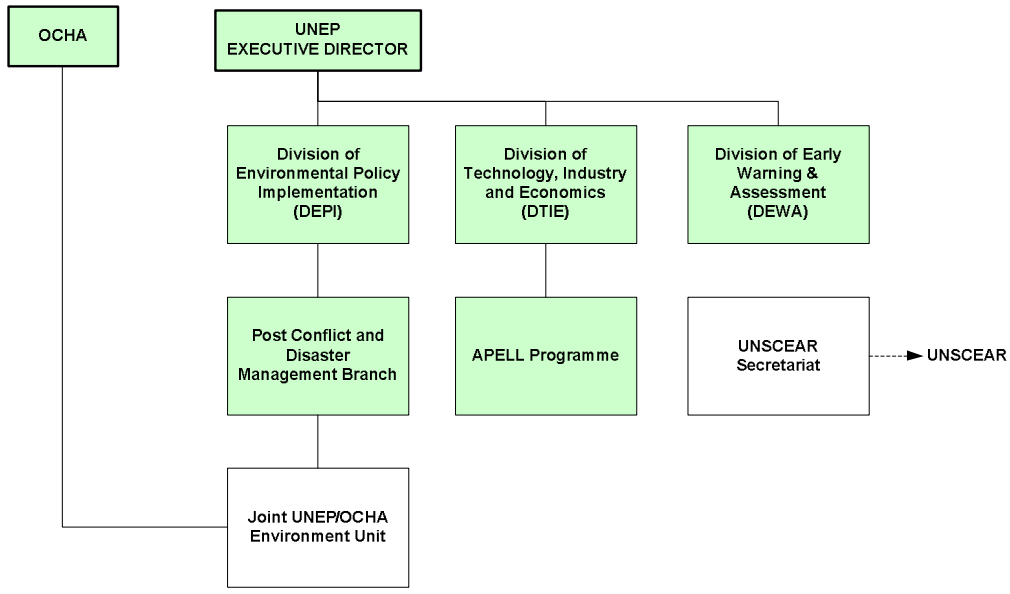
In addition, UNEP makes arrangements for the Vienna-based secretariat of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

The United Nations Environment Programme (UNEP) is the leading global authority and promotes the coherent implementation of the environmental dimension of sustainable development within the UN. The Programme is based in Nairobi, Kenya and counts on regional and thematic offices around the world. The Governing Council of UNEP identified the increasing environmental emergencies as one of the environmental threats that needed to be addressed and emphasized the important role the Programme played globally in the areas of emergency prevention, preparedness, assessment, mitigation and response. UNEP has developed a strategic framework on emergency prevention, preparedness, assessment, mitigation and response including an agenda for action which serves as a basis for the development and the implementation of programmes on disaster reduction at the global, regional and sub-regional and national levels.

The focus of UNEP's work in environmental emergencies is therefore to influence and assist countries through assessments, technical assistance, advisory services, production of tools and products, networking, pilot projects for better prevention, preparedness for, and response to environmental emergencies and/or disasters with impacts on the environment to ensure that the environmental aspects of emergencies are clearly understood and addressed as an integral part of overall disaster management

imperatives, including prevention, preparedness, response and mitigation, and that these are fully recognized as critical to human and environmental security.

Organization



Capabilities and arrangements

The Unit has a number of key functions that it undertakes to ensure timely and coordinated response to emergencies.

B

- Monitor – Continuous monitoring and on-going communication with an international network of contacts and permanent monitoring of news services and web sites, for early notification of environmental occurrences.
- Notification – when disaster strikes, the Unit promptly alerts the international community and issues Information and Situation Reports to a comprehensive list of worldwide contacts.
- Brokerage – the Unit can quickly bring the affected country in direct contact with donor governments around the world who are ready and willing to assist and provide needed response resources.
- Information Clearing House – the Unit serves as an effective focal point to ensure available information on chemicals, maps and satellite images from donor sources and institutions is channelled directly to the relevant authority in the affected country.
- Mobilisation of Assistance – the Unit is able to mobilise multilateral assistance from the international donor community when requested by countries affected by environmental emergencies or natural disasters with significant environmental implications.
- Assessment – the Unit can arrange for the urgent dispatch of international experts and equipment to assess the impacts of an emergency and to make impartial and independent recommendations about response, clean-up, remediation and rehabilitation.

The Unit is available 24 hours a day, 7 days a week, year-round to mobilize assistance for facing emergencies. To facilitate the process, the Unit has developed the "Environmental Emergency Notification/request for International Assistance" form. The form is available in English, French, Spanish, Russian, Chinese and Arabic through the Unit and on the Unit's web site at wwwunoach.org/unep.

UNEP contributes its environmental expertise to the efforts of the international community in the field of environmental emergencies. After the initial emergency

response phase, handled via the Joint Environment Unit, UNEP can, through its Post Conflict and Disaster Management Branch deploy multi-disciplinary teams to the field to undertake comprehensive environmental monitoring and risk assessment. In situations where the assessment reveals an on-going environmental risk, UNEP can mobilise additional international assistance to address the same.

In addition to PCDMB, a number of institutional structures exist within UNEP for this endeavour.

The Division of Early Warning and Assessment (DEWA) plays a role in environmental emergencies since through its assessments it generates data and information which can be used to support the contingency planning processes and in the development of preparedness strategies. The Division also acts as the principal counterpart for the Secretariat of UNSCEAR.

The Awareness and Preparedness for Emergencies at Local Level programme (APELL) within the Division of Technology, Industry and Environment (DTIE) is a tool for raising awareness and improving the preparedness of communities exposed to environmental emergencies. The programme addresses all environmental emergencies related to industrial activities with potential for fire, explosion or toxic release but is also relevant to natural disaster preparedness. Such environmental emergencies can result from human activity or as consequences of natural disasters such as earthquakes and flooding. APELL consists of two parts: providing information to the community to allow it to understand local risks; and putting together an overall co-ordinated response plan to protect people, property, and the environment. It has been successfully used to improve coordination of emergency response services locally, and in cross-border hazard situations. APELL has already been introduced in more than 30 countries and its successful implementation through country seminars/workshops and national APELL centres results in a better level of preparedness by local emergency services and an understanding by local people of how to react to an emergency in their neighbourhood.

Within the context of the Regional Seas Programme, Regional Activity Centres (RACs) are also responsible for backstopping administratively and technically, the Protocols dealing with co-operation in cases of emergency from maritime-related activities when these Protocols exist.

The Division of Regional Co-operation (DRC) and more specifically its six regional offices play a role in environmental emergencies through the implementation at regional/sub-regional levels of UNEP's global programme and in so doing support the work on environmental emergencies.

UNITED NATIONS OFFICE FOR THE CO-ORDINATION OF HUMANITARIAN AFFAIRS (OCHA)

Address

Routine Contact	Emergency Contact
OCHA Geneva United Nations, Palais des Nations, 8-14 Avenue de la Paix, 1211, Geneva, Switzerland Tel: +41 (0) 22 917 1234 E-mail: ochagva@un.org OCHA New York United Nations Secretariat, New York, NY 10017, USA Tel: +1 (212) 963 1234 E-mail: ochany@un.org http://www.unocha.org/unep	Emergency Services Branch For details go to USIE address book

Responsibilities and authorities

The Office for the Co-ordination of Humanitarian Affairs (OCHA) is part of the United Nations Secretariat and is headed by the Under-Secretary-General for Humanitarian Affairs and Emergency Relief Co-ordinator, who has the mandate to co-ordinate UN assistance, to advocate and to establish policies, in humanitarian crises that go beyond the capacity and mandate of any single UN agency. OCHA's mission is to:

- Mobilize and coordinate effective and principled humanitarian action in partnership with national and international actors in order to alleviate human suffering in disasters and emergencies.
- Advocate the rights of people in need.
- Promote preparedness and prevention.
- Facilitate sustainable solutions.

The Emergency Relief Co-ordinator, under the aegis of the General Assembly and working under the direction of the Secretary-General, has the following responsibilities[75]:

- processing requests from affected Member States for emergency assistance requiring a coordinated response;
- maintaining an overview of all emergencies through the systematic pooling and analysis of early warning information;
- organizing, in consultation with the government of the affected country, a joint inter-agency needs assessment mission and preparing a consolidated appeal to be issued by the Secretary General;
- actively facilitating, through negotiation if needed, access by operational organizations to emergency areas for the rapid provision of emergency assistance through modalities such as the establishment of temporary relief corridors;

[75] General Assembly Resolution A/RES/46/182, 1992 on Strengthening of the co-ordination of humanitarian emergency assistance of the United Nations.

- managing, in consultations with the operational organizations concerned, the central emergency response fund and assisting in the mobilization of resources;
- serving as a focal point with governments and intergovernmental and non-governmental organizations concerning United Nations emergency relief operations and, when appropriate and necessary, mobilizing their emergency relief capacities, including through consultations in the capacity as Chairman of the inter-agency standing committee (IASC);
- actively promoting, in close collaboration with concerned organizations, the smooth transition from relief to rehabilitation and reconstruction as relief operations under their aegis are phased out;
- providing consolidated information on emergencies, to all interested Governments and concerned authorities drawing on the capacities of the organizations of the system and other available sources.

OCHA has a Memorandum of Understanding with the IAEA[76] Secretariat, which encompasses: the specific responsibilities of OCHA and the IAEA Secretariat in a radiation emergency; disaster related activities in respect of which OCHA and the IAEA Secretariat will co-operate; requests for disaster relief assistance; joint action in the field and missions to disaster areas; exchange of information; confidential information; financial arrangements. In particular, it recognizes OCHA's role as that of an overall co-ordinator of all aspects of disaster relief assistance, and that the IAEA Secretariat has operational responsibilities for co-ordinating relevant technical and scientific assistance following a radiation accident. On request, the IAEA will advise OCHA of any special precautions or preparations to be taken or made by relief personnel. In a disaster situation following a radiation accident, the IAEA Secretariat will arrange for members of its staff to join any United Nations Disaster Assessment and Coordination (UNDAC) team, deployed from OCHA Emergency Services Branch, and to be responsible for the assessment of relevant technical and scientific requirements. OCHA will, at its discretion, send representatives to the disaster area for on the spot assessment of emergency relief requirements other than those of a technical or scientific nature. OCHA will also provide communications expertise in the event of a disaster or complex emergency.

International relief assistance supplements national efforts to improve the capacities of developing countries to mitigate the effects of natural disasters expeditiously and effectively and to cope efficiently with all emergencies. The United Nations is charged[77] with assisting developing countries to strengthen their capacity to respond to disasters, at the national and regional levels, as appropriate. In the disaster preparedness activities of OCHA, technical co-operation missions are sent to countries vulnerable to natural disasters to give advice to the Government on the establishment or improvement of disaster relief machinery, the formulation of emergency plans, the training of personnel, and other measures which should be taken in advance of a disaster. The Memorandum of Understanding[78] with the IAEA recognizes that the IAEA will provide, upon request from the Government of a country or from OCHA,

[76] Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

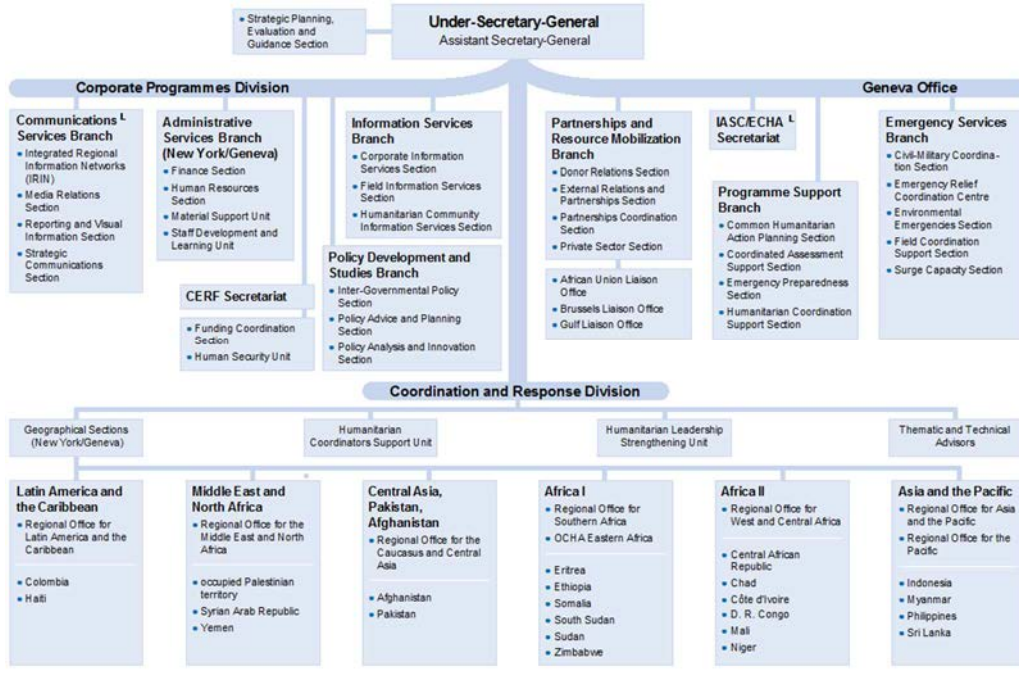
[77] General Assembly Resolution A/RES/46/182, 1992 on Strengthening of the co-ordination of humanitarian emergency assistance of the United Nations.

[78] Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

advice on the special precautions that should be taken into account in formulating emergency plans necessary for dealing with any radiation accident that may occur.

On the basis of existing mandates and drawing upon monitoring arrangements available within the system, the United Nations is charged with building upon the existing capacities of relevant organizations and entities of the United Nations, for the systematic pooling, analysis and dissemination of early warning information on natural disasters and other emergencies. As a matter of OCHA policy, early warning information should be made available in an unrestricted and timely manner to all interested Governments and concerned authorities.

Organization



Capabilities and arrangements

When a major emergency or disaster occurs, OCHA consults with United Nations Resident Coordinator/Humanitarian Coordinator (RC/HC)in the country(ies) concerned and undertakes inter-agency consultation at headquarters to reach agreement on the main humanitarian priorities for action. OCHA then provides support for the co-ordination of activities within the country, if necessary. It also assists in resource mobilization by launching international appeals and by monitoring progress of relief efforts, if so requested.

The Under Secretary-General for Humanitarian Affairs is the Emergency Relief Co-ordinator ERC, who is responsible for co-ordination among humanitarian entities and who serves as the principle humanitarian advocate in the UN system. The ERC achieves this mainly through his/her chairing of the Executive Committee on Humanitarian Affairs (ECHA) comprising UN entities, and the inter-agency standing committee (IASC), which brings together all major humanitarian actors, both within (ECHA members) and outside the UN system (such as NGOs and the Red Cross/Red Crescent movement). The IASC works to develop a shared analysis of a given crisis and to ensure inter-agency decision making on the response to complex emergencies and on the development of humanitarian policies and appropriate advocacy.

The OCHA Emergency Services Branch (ESB) in close co-operation with the Co-ordination Response Division (CRD) is the focal point within OCHA for mobilizing and co-ordinating international disaster response and can be contacted on a 24 hour basis in an emergency, when OCHA:

- alerts and mobilizes the international community, in particular emergency relief services of donor governments, the United Nations system, intergovernmental and non-governmental organizations. OCHA can organize and lead a United Nations inter-agency mission to the disaster affected area to carry out a multisectoral assessment of the effects of an emergency to ensure co-ordinated planning and the formulation of an overall UN response, if so requested;
- when the situation warrants and, subject to the availability of funds, will provide an emergency cash grant through the Office of the United Nations Resident Representative/Coordinator if the government launches an international appeal for assistance immediately after the occurrence of the disaster;
- is ready to act as an expeditious channel for donor contributions, relying on simple and quick administrative procedures;
- at the request of the affected government or RC/HC, OCHA may deploy to a sudden on-set emergency, the United Nations Disaster Assessment and Coordination (UNDAC) team and Hazmat technical modules with experts who can arrive in country within 48 hours and work closely with the affected governments and assist with assessments, communication, coordinating incoming international humanitarian assistance and in analysing and disseminating humanitarian information to the international community;
- the Hazmat team is equipped with intensimeters, dosimeters and sampling equipment for initial hazard zoning and ensuring that the United Nations on-site coordination centre (OSOCC) is operating in a safe environment and to alert international responders should they be on site through the virtual OSOCC, OCHA's real time information sharing portal(http://vosocc.unocha.org/), as the situation changes.
- alerts and co-ordinates urban search and rescue (SAR) teams from different countries when the situation warrants it;
- can assist in the establishment of an on-site operations co-ordination centre, which has the dual purpose of providing the local emergency management authority of an affected country with a system for coordinating the operational activities of international relief agencies, and of providing a framework for co-operation and co-ordination among international relief teams at a disaster site;
- can assist, on request, in mobilizing and coordinating a specialized environmental emergency assistance;
- can assist in establishing and coordinating secure and reliable telecommunications during the emergency response phase;
- can assist in identifying needs for and accessing technical and logistics resources in support of field co-ordination;
- carries out communications functions in public information and reporting, and assists in aligning messaging;
- can advise States on the deployment and use of foreign Military and Civil Defence Assets (MCDA), which include specialized personnel and equipment required for disaster relief operations (e.g. aircraft, helicopters, ships, nuclear decontamination facilities, field hospitals, water purification units).

UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS (OOSA)

Address

Routine Contact

United Nations Office for Outer Space Affairs
Vienna International Centre
P.O. Box 500
A-1400 Vienna, AUSTRIA
Tel. +43 (1) 26060-4950
Fax +43 (1) 26060-5830
E-mail: oosa@unvienna.org (General)
soregister@unoosa.org (Space objects related)
http://www.unoosa.org/

Emergency Contact

For details go to USIE address book

Responsibilities and authorities

The Office for Outer Space Affairs is part of the United Nations Secretariat and is responsible for servicing the United Nations Committee on the Peaceful Uses of Outer Space, the General Assembly's only standing committee that deals exclusively with the peaceful uses of outer space. The Office is also responsible for promoting the use and application of space-based technology and is mandated by the General Assembly to assist in the development of national and regional indigenous space applications capabilities, in support of sustainable development and disaster management. The Office serves as the secretariat for the United Nations Inter-Agency Meeting on Outer Space Activities, a mechanism established within the United Nations system to coordinate space-related activities of UN entities.

B

The Office provides technical legal assistance to States in the development of national legislation relating to the conduct and regulation of space activities.

On the authority of the Secretary-General of the United Nations, the Office is responsible for discharging his duties, responsibilities and obligations relating to outer space activities, as specified in international legal instruments[79]. These responsibilities involve the timely and effective dissemination of information relating to outer space activities provided by States and international intergovernmental organizations, in particular those that involve the launch, operation, re-entry and possible recovery of space objects (i.e. satellite, probes, manned spacecraft as well as non-functional objects such as spent rocket stages). Of these, the primary responsibility is the maintenance of the United Nations Register of Objects Launched into Outer Space, established under the 1976 Convention on Registration of Objects Launched into Outer Space. The Register is a treaty-based mechanism that identifies the State responsible for – and potentially liable in case of damage caused by – a particular space object.

[79] Those relevant to nuclear powered satellites and their re-entry are: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (resolution 2222 (XXI) of 1966); Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (resolution 2345 (XXII) of 1966); Convention on International Liability for Damage Caused by Space Objects (resolution 2777 (XXVI) of 1971); Convention on Registration of Objects Launched into Outer Space (resolution 3235 (XXIX) of 1974); and the Principles Relevant to the Use of Nuclear Power Sources in Outer Space (resolution 47/68 of 1992);

In the specific case of nuclear-powered satellites, and in addition to information provided under the Registration Convention, the 1992 Principles Relevant to the Use of Nuclear Power Sources in Outer Space, stipulates that:

- any State launching a space object with nuclear power sources on board shall, prior to the launch, ensure that a thorough and comprehensive safety assessment is conducted. This safety assessment shall cover all relevant phases of the mission and shall deal with all systems involved, including the means of launching, the space platform, the nuclear power source and its equipment and the means of control and communication between ground and space. The results of the safety assessment shall be made publicly available prior to each launch, and the Secretary-General of the United Nations shall be informed on how States may obtain such results of the safety assessment as soon as possible prior to each launch;
- any State launching a space object with nuclear power sources on board shall, in a timely fashion, inform States concerned and the Secretary-General of the United Nations in the event that this space object is malfunctioning with a risk of re-entry of radioactive materials to the Earth. Such notifications shall include information on the space object's system parameters (including the name of launching State or States and address of the authorities which may be contacted for additional information or assistance in case of accident; international designation; date and territory or location of launch; information required for the best prediction of orbit lifetime, trajectory and impact region; and general function of spacecraft) and the radiological risk of nuclear power source(s) (including the type of nuclear power source — radioisotopic/reactor; and the probable physical form, amount and general radiological characteristics of the fuel and contaminated/activated components likely to reach the ground);
- information provided in the case of a risk of re-entry of radioactive materials to the Earth shall be updated as frequently as practicable, with the frequency of dissemination of the updated information increasing as the anticipated time of re-entry into the dense layers of the Earth's atmosphere approaches so that the international community will be informed of the situation and will have sufficient time to plan for any national response activities deemed necessary;
- upon notification of an expected re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components, all States possessing space monitoring and tracking facilities, in the spirit of international co-operation, shall communicate the relevant information that they may have available on the malfunctioning space object with a nuclear power source on board to the Secretary-General of the United Nations and the State concerned as promptly as possible in order to allow States that might be affected to assess the situation and take any precautionary measures deemed necessary.

Organization

The professional staff of the Office consists of both scientifically and legally trained personnel with particular focus and specialization in matters pertaining to space-related activity, and would be available to provide background and technical assistance upon request.

Capabilities and arrangements

As required under its obligations to maintain the United Nations Register of Objects Launched into Outer Space and implement the other requirements of outer space treaties, the Office maintains expertise to validate technical information provided by States when registering their space objects in conformity with the Registration Convention. The Office maintains technical expertise in astronautics, spacecraft design, engineering, satellite tracking and space law. The Office also keeps apprised of

changes to space object population (such as collisions or in-orbit break-ups) and their negative impact on Earth's satellite population (including nuclear-powered satellites).

The Office provides a dedicated 24/7 capability for assistance to States in the identification of space objects recovered within their territory. This resource is also made available to the Incident and Emergency Centre of the IAEA for emergency and routine enquiries.

As part of its duties under the JPLAN, the Office provides pre-launch notification to the IEC on nuclear-powered space objects and other space that may be of concern to States (such as lunar planetary probes or other deep space missions). It also provides the IEC with technical information on the decay of space objects, its assessment of any radiological risks, and the survivability of the object's components. The Office responds to requests for information by organizations within the United Nations System, States and the media on high-profile space-related topics. If necessary, it also can draw upon technical, policy and media resources of the United Nations Headquarters as well as the United Nations Office at Vienna.

The Office also maintains a network of nations focal points on space objects and also maintains close contact with technical and legal experts and policy makers in national space agencies and governments. If required, the Office can request assistance from those States who have space surveillance capabilities to support JPLAN-related activities.

B

UNITED NATIONS SCIENTIFIC COMMITTEE ON THE EFFECTS OF ATOMIC RADIATION (UNSCEAR)

Address

Routine Contact	Emergency Contact
Secretary, United Nations Scientific Committee on the Effects of Atomic Radiation Vienna International Centre P. O. Box 500 A-1400 Vienna, AUSTRIA http://www.unscear.org	For details go to USIE address book

Responsibilities and authorities

The United Nations Scientific Committee on the Effects of Atomic Radiation was established by the General Assembly of the United Nations in 1955. Its mandate in the United Nations system is to assess and report levels, effects and risks of exposure to ionizing radiation. Specifically, the General Assembly has mandated[80,81,82] the Committee:

- To receive and assemble in an appropriate and useful form the following radiological information furnished by States Members of the United Nations or members of the specialized agencies:

[80] UN General Assembly resolution 913(X), Effects of atomic radiation, 3 December 1955.
[81] UN General Assembly resolution 67/112, Effects of atomic radiation, 18 December 2012, etc.
[82] UN General Assembly resolution 3154(XXVIII), Effects of atomic radiation, 14 December 1973

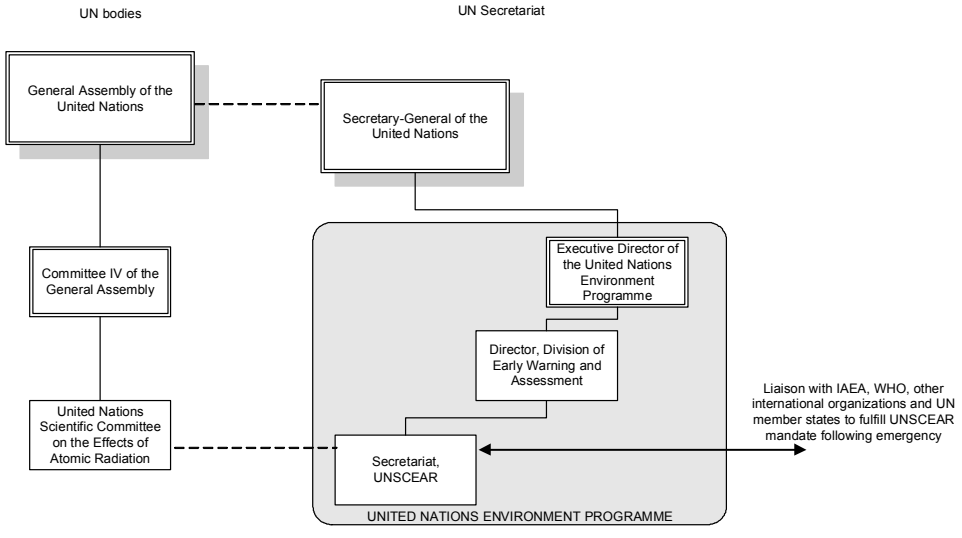
(i) reports on observed levels of ionizing radiation and radioactivity in the environment;
(ii) reports on scientific observations relevant to the effects of ionizing radiation upon man and his environment by national scientific bodies or by authorities of national Governments;

- To compile and assemble in an integrated manner the various reports on observed radiological levels;
- To review important problems in the field of ionizing radiation and to report thereon to the General Assembly;
- To review and collate national reports evaluating each report to determine its usefulness for the purposes of the Committee;
- To make summaries of the reports received on radiation levels and radiation effects on man and his environment and indications of research projects which might require further study;
- To transmit, as it deems appropriate, its evaluations to the Secretary-General for publication and dissemination to States Members of the United Nations or members of the specialized agencies;
- In response to a request by the Government of a country which is situated in an area of nuclear arms testing or which considers that it is exposed to atomic radiation by reason of such testing, to appoint a group of experts from among its members for the purpose of visiting that country, at the latter's expense, and of consulting with its scientific authorities and information the Committee of the consultations.

The Committee does not address protection or policy related matters, these being within the mandate of other international bodies. This helps to distinguish the Committee's responsibility for scientific matters from policy development.

Organization

The following diagram illustrates the organization of UNSCEAR for reporting on levels and effects of ionizing radiation:



The United Nations Environment Programme provides support for the effective conduct of the work of the Scientific Committee and for the dissemination of its findings to the General Assembly, the scientific community and the public. In particular, it provides the Secretariat of UNSCEAR.

Capabilities and arrangements

The representatives of 27 UN Member States that have been designated members of UNSCEAR, together with their numerous advisers of various disciplines, represent an asset for international scientific scrutiny of reported levels, effects and risks.

The UNSCEAR Secretariat can engage consultants to help prepare material for scrutiny by the Committee; it also maintains networks of expertise on matters related to levels and effects of radiation; it operates a web-site with information on levels, effects and risks of exposure to ionizing radiation; and, if necessary, it can convene extraordinary sessions of UNSCEAR.

If an event occurs that involves significant numbers of serious overexposures or widespread contamination of water, surface, people or commodities or is of significant concern to the UN General Assembly or the public, the Secretariat of UNSCEAR will, as appropriate: establish liaison with the IAEA, WHO and/or UNEP to coordinate a review of the levels, effects and risks of the exposures for the UN General Assembly, the international scientific community and/or the public; liaise with the Scientific Committee and its Executive Officers; prepare material for public release on the levels, effects and risks of exposure to ionizing radiation; and liaise with the Secretariat of the United Nations with a view to preparing a report for the General Assembly.

The Committee produces the UNSCEAR reports, which are detailed reports to the General Assembly. The scientific community regards them as authoritative and balanced reviews of the levels, effects and risks of exposure of humans and the environment to ionizing radiation. The reports review exposures from natural radiation sources, from nuclear power production and nuclear tests, exposures from medical diagnosis and treatment, and from occupational exposure to radiation. They include detailed studies on cancer induced by radiation, on the mechanisms of the development of cancer and the body's repair systems against it, further on the hereditary risks induced by exposure to radiation, and on the combined effects of radiation and other (for instance chemical) agents.

Though the work of the Scientific Committee is performed by 27 of the UN Member States, its work is conducted on behalf of all Member States of the United Nations and the international scientific community.

The UNSCEAR assessments provide the basis within the UN system for assessment of the risks of exposure to ionizing radiation, and for the development of radiation protection standards. The information in the UNSCEAR reports, which are publicly available on the UNSCEAR web-site, can be used by communicators to help provide perspective on levels, effects and risks of specific exposures.

WORLD HEALTH ORGANIZATION (WHO)

Address	Routine Contact	Emergency Contact
	World Health Organization 20, Avenue Appia CH-1211 Geneva SWITZERLAND http://www.who.int/ionizing_radiation http://www.who.int/ihr http://www.who.int	For details go to USIE address book

Responsibilities and authorities

The World Health Organization (WHO), under its Constitution, has the statutory general responsibilities relevant to emergency response[83]:

- to act as the directing and co-ordinating authority on international health work;
- to furnish appropriate technical assistance and, in emergencies, necessary aid upon the request or acceptance of governments;
- to establish and maintain effective collaboration with the United Nations, specialized agencies, governmental health administrations, professional groups and such other organizations as may be deemed appropriate;
- to assist governments, upon request, in strengthening health services;
- to promote, in co-operation with other international agencies where necessary, the improvement of nutrition, housing, sanitation, recreation, economic or working conditions and other aspects of environmental hygiene;
- to study and report on, in co-operation with other international agencies where necessary, administrative and social techniques affecting public health and medical care from a preventive and curative point of view, including hospital services and social security;
- to provide information, counsel and assistance in health;
- to assist in developing an informed public opinion worldwide on matters of health.

The WHO Secretariat, through the Department of Global Capacity, Alert and Response, and other programmes, is also actively supporting and monitoring public health capacity building activities by the IHR States Parties. Under the IHR (2005), all 196 States Parties are required to develop and maintain a broad range of core public health capacities for surveillance and response, including specifically public health event and emergency preparedness (with relevant public health emergency response plans), both generally throughout the national territory and at designated international ports, airports and ground crossings. Consistent with the broad scope of the IHR, these requirements apply to public health risks of radiation, as well as those of biological or chemical origin.

Under the IHR (2005) (see below), all States Parties are required to have National IHR Focal Points, which are available at all times for IHR-related communications with WHO, including public health emergencies. These National IHR Focal Points are required to have established contacts or links with all relevant governmental sectors which may be involved in a public health emergency; these should also include the national radiation-related authorities (as well as food safety, chemical safety, transportation, agriculture and other sectors) to ensure appropriate coordination during a related public health emergency or event.

Technical tools and guidance supporting these capacities development (including those relating to radiation risks) are made available by WHO relevant technical programmes, including the Radiation Programme of the Interventions for Healthy Environment Unit (Department of Public Health and Environment, Health Security and Environment Cluster) and at the six regional offices of WHO. Training courses, workshops and technical meetings are taking place in all regions to support national capacity building. All States Parties were required to complete an assessment of their existing national core capacities and resources needed to meet the IHR core capacity

[83] Constitution of the World Health Organization, Chapter II – Functions, Article 2.

requirements. All of these core surveillance and response capacities, including those relating to radio-nuclear risks were required to be in place by June 2012 – unless an extension was granted.

WHO is a full party to the Early Notification and Assistance Conventions[84] and, as such, is competent to act as the directing and co-ordinating authority in international public health matters covered by the Conventions, and to provide related assistance upon the request or acceptance of governments, without prejudice to the national competence of each of its Member States.

With regard to its obligations as a Party to the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, WHO:

- co-operates…to facilitate prompt assistance in the event of a nuclear accident or radiological emergency to minimize its consequences and to protect life… from the effects of radioactive releases;
- may agree on bilateral or multilateral arrangements or, where appropriate, a combination of these, for preventing or minimizing injury and damage which may result in the event of a nuclear accident or radiological emergency;
- shall promptly decide and notify a requesting State Party, directly or through the IAEA, whether it is in a position to render the assistance requested, and if so, the scope and terms of the assistance that it might render;
- shall, within the limits of its capabilities, identify and notify the IAEA of experts, equipment and materials which could be made available for the provision of assistance to other States Parties in the event of a nuclear accident or radiological emergency as well as the terms, especially financial, under which such assistance could be provided;
- should, where the assistance involves personnel, designate in consultation with the requesting State, the person who should be in charge of and retain immediate operational supervision over the personnel and the equipment provided by the personnel. The designated person should exercise such supervision in co-operation with the appropriate authorities of the requesting State;
- shall make known to the IAEA and to other States Parties, directly or through the IAEA, its competent authorities and point of contact authorized to make and receive requests for and to accept offers of assistance. Such points of contact…shall be available continuously, and shall promptly inform the IAEA of any changes in the information;
- shall protect the confidentiality of any confidential information that becomes available…in connection with the assistance in the event of a nuclear accident or radiological emergency;
- shall make every effort to co-ordinate with the requesting State before releasing information to the public on the assistance provided in connection with a nuclear accident or radiological emergency.

The World Health Organization has the statutory responsibilities with regard to preparedness and response to radiological or nuclear emergency In 18 May 2002, the World Health Assembly adopted resolution WHA55.16 "Global public health response to natural occurrence, accidental release or deliberate use of biological and chemical agents or radioactive material that affect health". This resolution recognized that one of the most effective methods of preparing for deliberately caused disease is

[84] Conventions on Early Notification of a Nuclear Accident and on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Instrument of Accession, 28 July 1988.

to strengthen public health surveillance and response activities for naturally or accidentally occurring diseases. Among other determinations, the World Health Assembly:

- URGED Member States:
  (1) to ensure they have in place national disease-surveillance plans which are complementary to regional and global disease-surveillance mechanisms, and to collaborate in the rapid analysis and sharing of surveillance data of international humanitarian concern;
  (2) to collaborate and provide mutual support in order to enhance national capacity in field epidemiology, laboratory diagnoses, toxicology and case management;
  (3) to treat any deliberate use of …chemical agents and radiological or nuclear attack …also as a global public health threat, and to respond to such a threat in other countries by sharing expertise, supplies and resources in order rapidly to contain the event and mitigate its effects;

- REQUESTED the Director General:
  (1) to continue, in consultation with relevant intergovernmental agencies and other international organizations, to strengthen global surveillance… and related activities such as revision of the International Health Regulations and development of WHO's food safety strategy, by coordinating information gathering on potential health risks and disease outbreaks, data verification, analysis and dissemination, by providing support to laboratory networks, and by making a strong contribution to any international humanitarian response, as required;
  (2) to provide tools and support for Member States, particularly developing countries, in strengthening their national health systems, notably with regard to emergency preparedness and response plans, including disease surveillance and toxicology, risk communication, and psychosocial consequences of emergencies;
  (3) to continue to issue international guidance and technical information on recommended public health measures to deal with the deliberate use of harmful agents, and to make this information available on WHO's web site;
  (4) to examine the possible development of new tools, within the mandate of WHO, including modelling of possible scenarios of …accidental release or deliberate use of …radioactive material and collective mechanisms concerning the global public health response.

In addition, on 27 May 27, 2006, the World Health Assembly of 2006, adopted WHA59.22 "Emergency Preparedness and Response", which:

- REQUESTS Member States to further strengthen national emergency mitigation, preparedness, response, and recovery programmes through, as appropriate, legislative, planning, technical, financial and logistical measures, with a special focus on building health systems and community resilience;
- URGES Member States to provide support to affected countries, and to WHO so that it may address immediately, within its mandate, humanitarian health crises;
- REQUESTS the Director-General, to take the necessary steps:
  (1) to provide the necessary technical guidance and support to Member States for building their health-sector emergency preparedness and response programmes at national and local levels, including a focus on strengthening community preparedness and resilience;
  (2) to work to ensure that WHO, within its mandate, is able to respond effectively to emergencies and crises and, in doing so, continues to work closely with other organizations of the United Nations system … and other relevant international organizations and mechanisms;

- REQUESTS the Director-General in particular:

  (1) to explore and implement measures to enhance WHO participation in the overall humanitarian response through existing mechanisms such as the Central Emergency Response Fund, International Search and Rescue Advisory Group, or the United Nations Disaster Assessment and Coordination team;

  (2) to compile a global database of authoritative technical health references in order to facilitate health-sector response to emergencies and crises;

  (3) to establish and maintain, in collaboration with relevant organizations of the United Nations system and other partners, a tracking service that will monitor and assess mortality rates in humanitarian emergencies.

  (4) to take part in United Nations system-wide mechanisms for logistics and supply management that would assure immediate mobilization of vital supplies in emergencies an crises.

The International Health Regulations (2005) ("IHR 2005") were adopted by the World Health Assembly on 23 May 2005. The IHR (2005) entered into force on 15 June 2007[85] and are binding upon 196 States Parties (including all 194 WHO Member States). They were negotiated and adopted by the WHO Member States to establish a global legal framework against the international spread of disease, including coordinated response to potential international public health emergencies and public health risks involving, virtually all serious public health risks which could be transmitted across borders. In light of their comprehensive purpose and scope, and expansive definitions of "disease", "event", "public health risk"[86] and other relevant terms, the IHR (2005) are very broad in their application, and also include risks and events of radiological origin. However, not all events involving radiation present the risks to public health to trigger some of the provisions in the IHR.

B

Under the IHR (2005), WHO has mandates and obligations to:

- Receive notifications and reports from all States Parties concerning public health events (including emergencies) and other public health risks of potential international concern
- Seek verification of unofficial reports of all public health events which may constitute a *public health emergency of international concern*, to which States Parties are obligated to respond with all applicable public health information to WHO
- Collaborate with and support States Parties in assessing and responding to public health risks and events , including technical guidance and assistance, assessing the effectiveness of control measures and where appropriate the mobilization of international teams of experts
- Conduct public health surveillance globally, assess their potential to cause international disease spread and interference with international traffic Disseminate information on relevant public health events (including emergencies) and risks to States Parties and relevant international organizations
- Determine (by the Director General) whether a *public health emergency of international concern* is occurring, and if so, determine when it has terminated, as well as issue "temporary recommendations" to States Parties and others of appropriate responsive

[85] *International Health Regulations (2005)*. Second edition, WHO: Geneva 2008, available at http://www.who.int/ihr/IHR_2005_en.pdf.

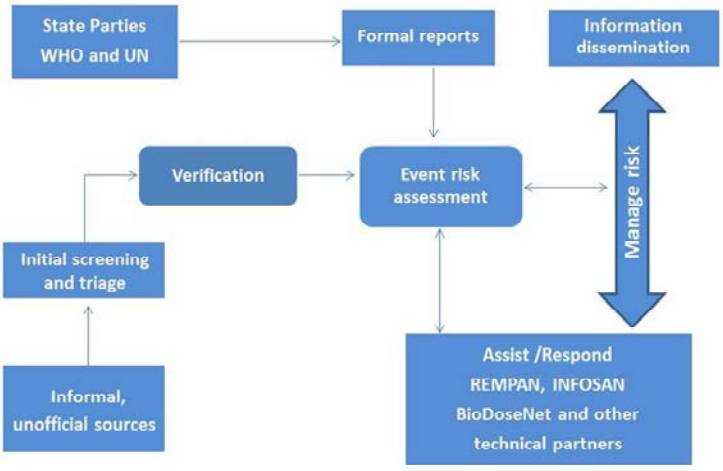
[86] IHR (2005) definitions of "disease", "event" and "public health risk": "disease" means an illness or medical condition, irrespective or origin or source, that presents or could present significant harm to humans; "event" means a manifestation of disease or an occurrence that creates a potential for disease; "public health risk" means a likelihood of an event that may affect adversely the health of human populations, with an emphasis on one which may spread internationally or may present a serious and direct danger (IHR (2005), Art. 1.1).

health measures according to specified procedures including advice by an IHR Emergency Committee of experts

- Coordinate and cooperate in its activities implementing the IHR, as appropriate, with other competent intergovernmental organizations and international bodies, including the United Nations, FAO, IAEA, ICAO, IMO and others in order to ensure adequate protection for public health

Organization

Overall responsibility for WHO preparedness and response to radiation emergencies, liaison and coordination with other relevant IOs and other stakeholders, updating the WHO standard operating procedures for response to radiation emergencies, coordination and maintenance of specialized expert networks lies with the Department of Public Health and Environment (PHE), Health Security and Environment Cluster (HSE), World Health Organization Headquarters, Geneva. Issues pertaining to food monitoring and safety are addressed by the Department of Food Safety (FOS, HSE). The following diagram illustrates the organization of WHO for response to radiological and nuclear emergencies.



Capabilities and arrangements

The resour

- Public health events (including emergencies)) and risks (including those involving radiation or related health risks) are subject to reporting, assessment, coordination and other response-related requirements and mechanisms in the International Health Regulations (2005), and the related technical and IHR administrative resources at WHO Headquarters and the regional offices.
- WHO Headquarters response to a public health emergency event, regardless of its nature, is managed from the Strategic Health Operation Center (SHOC) with the technical support provided by the staff of specialized technical programs. SHOC offers state-of-the-art technology for emergency communications and information sharing.
- As of April 2013 the Radiation Team (RAD) of the Interventions for Health Environment Programme (IHE) of the Department of Public Health and Environment (PHE) is a key technical Unit in the area of radiation emergency response of the WHO and in such capacity RAD provides technical support to the Regional and Country Offices of WHO.. RAD is the focal point for IAEA's Incident and Emergency Centre and IACRNE for maintaining and mobilizing the international response arrangements.

- Coordinated by RAD, the Radiation Emergency Medical Preparedness and Assistance Network (REMPAN[87]) provides access to a large number of specialized facilities, equipment and expertize of the WHO collaborating institutions for consultation, diagnosis and treatment of radiation injuries and delayed health consequences of radiation emergencies. In emergency. WHO staff and/or REMPAN experts may join IAEA's missions deployed to the field.
- Coordinated by RAD, the WHO BioDoseNet[88] - a global network of biodosimetry laboratories provides technical assistance, advice and may support response to a large event when existing cytogenetic capacity is overwhelmed.
- The International Food Safety Authorities Network (INFOSAN[89]) is a joint initiative between WHO and FAO. This a global network includes of 177 member states to promote the rapid exchange of information during food safety related events; share information on important food safety related issues of global interest; promote partnership and collaboration between countries; help countries strengthen their capacity to manage food safety risks.
- Limited funds and generic medical supplies allocated by respective WHO departments for general emergency and humanitarian actions may be used to facilitate initial response of the WHO to an emergency.

Aside emergency response, in accordance with its statutory responsibilities, the WHO works with its Regional Offices, specialized networks, national and international agencies and organizations on strengthening preparedness and building capacity of national public health systems of the Member States.

WHO co-sponsors relevant IAEA safety standards, guides and requirements, including the "International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of radiation Sources", "Safety Requirements: Preparedness and Response for a Nuclear or Radiological Emergency" (No. GS-R-2) and "Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency" (No. GSG-2).

WHO worked with the Joint FAO/WHO Codex Alimentarius Commission in the establishment of revised Codex Guideline Levels for Radionuclides in Foods[90].

WORLD METEOROLOGICAL ORGANIZATION (WMO)

Address

Routine Contact

World Meteorological Organization
7 bis, Avenue de la Paix
CH-1211 Geneva 2
C.P. 2300

Emergency Contact

[87] WHO REMPAN: http://www.who.int/ionizing_radiation/a_e/rempan/en/index.html
[88] WHO BioDoseNet: http://www.who.int/ionizing_radiation/a_e/biodosenet/en/index.html
[89] INFOSAN: http://www.who.int/foodsafety/fs_management/infosan/en/
[90] Joint FAO/WHO Food Standards Programme; Codex General Standard for Contaminants and Toxins in Foods; Schedule I – Radionuclides; (CODEX STAN 193-1995).

SWITZERLAND
http://www.wmo.int For details go to USIE address book

Responsibilities and authorities

The World Meteorological Organization (WMO) is a specialized agency of the United Nations. It is the UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.

WMO promotes cooperation in the establishment of networks for making meteorological, climatological, hydrological and geophysical observations, as well as the exchange, processing and standardization of related data, and assists technology transfer, training and research. It also fosters collaboration between the National Meteorological and Hydrological Services of its Members and furthers the application of meteorology to public weather services, agriculture, aviation, shipping, the environment, water issues and the mitigation of the impacts of natural disasters.

In the specific case of weather-, climate and water-related hazards, which account for nearly 90% of all natural disasters, WMO's programmes provide vital information for the advance warnings that save lives and reduce damage to property and the environment. WMO also contributes to reducing the impacts of human-induced disasters, such as those associated with chemical and nuclear accidents, forest fire and volcanic ash.

The WMO includes its Members, operational meteorological centres, and its Secretariat headquartered in Geneva, Switzerland. The Secretariat represents the WMO at the Inter-Agency Committee on Radiological and Nuclear Emergencies, including its working groups, such as the *Ad Hoc* Working Group on Air and Maritime Transportation.

The WMO is a full Party to the Early Notification and Assistance Conventions[91] and, as such, the WMO, in coordination with IAEA:

- co-operates to arrange, or facilitate prompt technical assistance in the event of a nuclear accident or radiological emergency, to minimize its consequences and to protect life from the effects of radioactive releases into the environment;
- shall establish appropriate operational procedures for emergency notification, requests and responses involving WMO's operational Regional Specialized Meteorological Centres (RSMC) specializing in atmospheric transport, dispersion and deposition modelling, and the relevant National Meteorological Centres;
- shall, when requested and within the limits of its capabilities, identify and notify the IAEA of experts, equipment and material that could be made available for the provision of assistance to a relevant International Organization participating in this Plan, or a State Party in the event of a nuclear accident or radiological emergency and the terms, especially financial, under which such assistance would be provided;
- should, where the assistance involves personnel, designate in consultation with the requesting Organization or State, the person who should be in charge of and retain immediate operational supervision over the personnel and the equipment provided by the personnel. The designated person should exercise such supervision, including reasonable working arrangements, in co-operation with the appropriate authorities of the requesting Organization or State;

[91] Convention on Early Notification of a Nuclear Accident, Instrument of Accession, 16 Oct. 1990.

- shall make known to the IAEA and to relevant International Organizations participating in this Plan, and States Parties directly or through the IAEA, its competent authorities and point of contact authorized to make and receive requests for assistance, or delivery of operational services. Such points of contact shall promptly inform the IAEA of any changes in the information;
- shall protect the confidentiality of any so designated information in connection with the assistance in the event of a nuclear accident or radiological emergency.

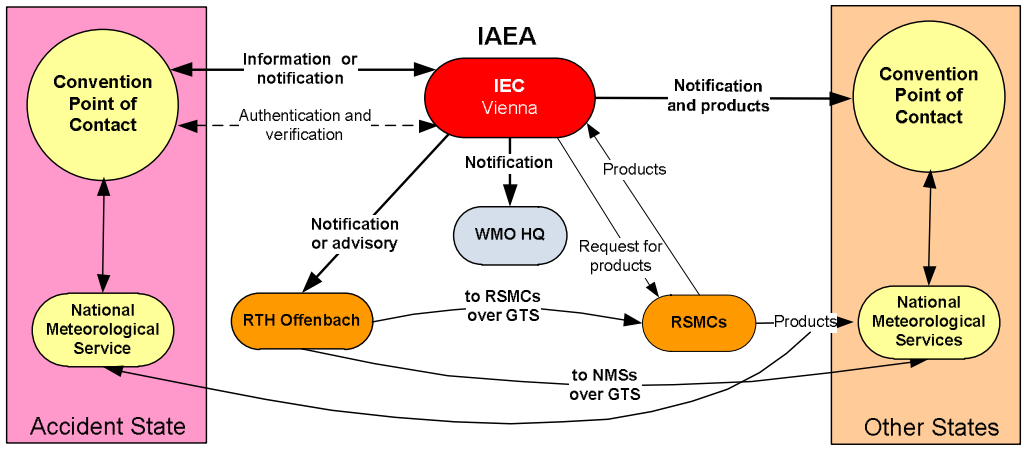
Standing operational procedures have been implemented to allow for urgent request for assistance by State Parties, coordinated with their respective National Meteorological Services, or through the IAEA. WMO's network of Regional Specialized Meteorological Centres (RSMC) is in around-the-clock readiness to provide assistance to any requesting country, or the IAEA. In addition, WMO cooperates with other relevant international organizations, through the Joint Plan, coordinated by IAEA. The assistance consists of expertise in the field of atmospheric transport, dispersion, and deposition modelling, as well as operational weather forecasting services that support emergency response operations. These procedures are maintained in technical regulations of WMO, in WMO's Manual on the Global Data-Processing and Forecasting System (WMO - No. 485).

Expert meteorological services beyond those that have been pre-arranged can be requested through the Secretary-General of WMO.

Organization

B

The organizational chart depicts the manner in which the IAEA and WMO co-operate in order to notify and provide meteorological products to States during an emergency.



Capabilities and arrangements

WMO manages its Emergency Response Activities programme as part of the World Weather Watch (WWW) programme. The programme is co-ordinated under the technical responsibility of the WMO Commission for Basic Systems. The relevant activities of WMO include provision of environmental observational data and meteorological analyses and forecasts, operation of the WMO Information System, (WIS, maintained from what formerly was the Global Telecommunication System (GTS)) in support of the Early Notification and Assistance Conventions and, from

certain dedicated RSMCs of the WMO Global Data-Processing and Forecasting System (GDPFS), provision of specialized atmospheric transport, dispersion and deposition modelling forecast products. In addition, the National Meteorological and Hydrological Services (NMHSs) that could call on assistance from the RSMCs, advise their respective governments in meteorological and hydrological matters related to an environmental emergency in accordance with pertinent national regulations. As well, the IAEA has implemented procedures jointly with WMO for obtaining meteorological support from designated RSMCs.

The IAEA issues notification messages using e-mail and facsimile distribution, in conjunction with a secure Website (USIE), as means of communications. The WMO offers its WMO Information System (WIS) as a global-reach backup communications network. The WMO Regional Telecommunication Hub (RTH) Offenbach dispatches relevant messages to the WIS which will use the WMO abbreviated bulletin heading WNXX01 for global distribution.

At present, there are eight designated RSMCs designated for this activity, including: Exeter and Toulouse (for Europe and Africa); Washington and Montreal (for North, Central and South America); Beijing, Obninsk and Tokyo (for Asia); and Melbourne (for South West Pacific). They operate sophisticated atmospheric simulation models to provide information on actual and anticipated atmospheric transport, dispersion and deposition of airborne radioactivity. All RSMCs operate around the clock, every day. National Meteorological Centres, using products from the RSMCs, provide meteorological support services to their respective relevant national authorities.

The Regional and Global Arrangements for the provision of transport model products for environmental emergency response are specified in the technical regulations of WMO, contained in the WMO Manual on the GDPFS (WMO No. 485)[92] and essential aspects may be accessed on the WMO Website under: World Weather Watch (WWW), Programmes, Emergency Response Activities, at:

www.wmo.int

A list of contact points for the RSMCs, national meteorological centres (NMCs), and the WMO Secretariat is available on this WMO Website, accessible from "Contacts".

While the WMO Secretariat has the responsibility for coordinating the overall participation and contribution of WMO in the operational emergency response system, its offices are normally opened during normal office hours, in Geneva, Switzerland.

[92] WMO-No. 485 - *Manual on the Global Data-processing and Forecasting System*, (2010 Edition, Annex IV to the WMO Technical Regulations), Appendices I-1, I-3 and II-7. Also included in *Documentation on RSMC support for environmental emergency response (targeted to meteorologists at NMSs)*, WMO-TD/No. 778 (online version only, at www.wmo.int).

Appendix C

APPENDIX C
Glossary and abbreviations

Accident — Any unintended event, including operating errors, equipment failures or other mishaps, the consequences or potential consequences of which are not negligible from the point of view of protection or safety.

Accidental medical exposure — Any diagnostic or therapeutic exposure delivered to either the wrong patient or the wrong tissue, or using the wrong pharmaceutical, or with a dose or dose fractionation differing substantially from the values prescribed by the medical practitioner or which may lead to undue acute secondary effects; any equipment failure, accident, error, mishap or other unusual occurrence with the potential for causing a patient exposure significantly different from that intended.

Advisory — A message to a national or international authority by an authorized competent authority providing details of an actual, potential or perceived nuclear or radiological incident or emergency without the explicit obligation or expectation to do so under international treaty or according to international safety standards.

Arrangements — The integrated set of infrastructural elements necessary to provide the capability for performing a specified function or task required in response to a nuclear or radiological emergency. These elements may include authorities and responsibilities, organization, coordination, personnel, plans, procedures, facilities, equipment or training.

Authentication — The process of confirming that a message received comes from a valid source.

Complex emergency — Humanitarian crisis in a country, region or society where there is a total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single agency and/or the on-going UN country programme[93].

Competent authority — A Contact Point that has the competency and responsibility to either notify/report a nuclear or radiological incident or emergency to the IAEA or that has the competency and responsibility to receive notifications from other States or the IAEA on nuclear or radiological emergencies which could affect its State.

[93] These are general definitions used by the international humanitarian assistance community that are not specific to nuclear accidents or radiological emergencies.

Contact point A generic term for an organization designated by a State or an international organization that has a role to play in international exchange of information or request for and provision of assistance concerning a nuclear or radiological incident or emergency.

Dangerous source A source that could, if not under control, give rise to exposure sufficient to cause a severe deterministic health effects.

Examples of 'dangerous sources' as defined here are the following: industrial radiography and teletherapy sources; irradiators; radiothermal generators; fixed industrial gauges involving high activity sources; high dose rate and low dose rate brachytherapy sources; well logging sources and similar sources. The following would not be considered 'dangerous sources': moisture density gauges and fixed industrial gauges involving lower activity sources, and similar sources.

Disaster A serious disruption of the functioning of a society, causing widespread human, material or environmental losses, which exceed the ability of the affected society to cope using its own resources[93].

Emergency A non-routine situation that necessitates prompt action, primarily to mitigate a hazard or adverse consequences for human health and safety, quality of life, property or the environment. This includes **radiation** and conventional emergencies such as fires, release of hazardous chemicals, storms or earthquakes. It includes situations for which prompt action is warranted to mitigate the effects of a perceived hazard.

Emergency plan A description of the objectives, policy and concept of operations for the response to an **emergency** and of the structure, authorities and responsibilities for a systematic, co-ordinated and effective response. The emergency plan serves as the basis for the development of other plans, procedures and checklists.

C

Emergency preparedness The capability to take actions that will effectively mitigate the consequences of an **emergency** for human health and safety, quality of life, property or the environment.

Emergency procedures A set of instructions describing in detail the actions to be taken by response personnel in an **emergency**.

Emergency response The performance of actions to mitigate the consequences of an **emergency** for human health and safety, quality of life, property and the environment. It may also provide a basis for the resumption of normal social and economic activity.

Facilities and activities A general term encompassing nuclear facilities, uses of all sources of ionizing radiation, all radioactive waste management activities, transport of radioactive material and any other practice or circumstances in which people may be subject to exposure to radiation from naturally occurring or artificial sources.

Incident Any event, including operating errors, equipment failures, initiating events, accident precursors, near misses or other mishaps, or unauthorized act, malicious or non-malicious, the consequences or potential consequences of which are not negligible from the point of view of protection, safety or security..

International organization International intergovernmental organization including specialized agencies and related organizations of the UN system as well as relevant programmes, offices or entities of the United Nations. It excludes non-governmental organizations.

National warning point A Contact Point that is staffed or able to be alerted at all times for promptly responding to, or initiating a response to, an incoming notification, advisory message, request for assistance or request for verification of a message as appropriate, from the IAEA.
In the Early Notification and Assistance Conventions, the term 'point of contact' is used. However, the term was found to be confusing and was often misused by Parties. The term 'National warning point' is used here to make it clear that this is the Contact Point that needs to be available 24 hours a day for receipt of a notification, advisory message or request for information or assistance.

Notification A message submitted promptly to a national or international authority by an authorized competent authority under international treaty or according to international standards providing details of an **emergency** or possible emergency, e.g. as required by the Convention on Early Notification of a Nuclear Accident, or under the provisions of outer space treaties or international safety standards[94] (cf. **Advisory**).

Notifying State The State that is responsible for notifying potentially affected States and the IAEA of an event or situation of actual, potential or perceived radiological significance for other States. This includes: 1) the State Party that has jurisdiction or control over the facility or activity (including space objects) in accordance with Article 1 of the Convention on Early Notification of a Nuclear Accident; or 2) the State that initially detects, or discovers evidence of, a transnational emergency, for example by: detecting significant increases in atmospheric radiation levels of unknown origin; detecting contamination in transboundary shipments; discovering a dangerous source that may have originated in another State; or diagnosing medical symptoms that may have resulted from exposure outside the State.

Nuclear installation A nuclear fuel fabrication plant, research reactor (including subcritical and critical assemblies), nuclear power plant, spent fuel storage facility, enrichment plant, or reprocessing facility.

Offer of good offices A message sent to affected or potentially affected State offering the IAEA assistance in the event of actual or potential radiation incident or emergency.

Radiation emergency An **emergency** in which there is, or is perceived to be, a hazard due to: a) the energy resulting from a nuclear chain reaction or from the decay of the products of a chain reaction; or b) radiation exposure

Reporting State The State that is informing potentially affected States and the IAEA of an event of actual, potential or perceived radiological significance. The State sends the information voluntarily, without a legal obligation to do so.

Participating organization International intergovernmental organization member of the Inter-agency Committee on Radiological and Nuclear Emergencies (IACRNE).

C

[94] FAO/IAEA/ILO/OECD(NEA)/OCHA/PAHO/WHO, Preparedness and Response for a Nuclear or Radiological Emergency, GS-R-2, IAEA, Vienna (2002)

Transnational emergency A **nuclear or radiological emergency** of actual, potential or perceived radiological significance for more than one State. This includes: 1) a significant transboundary release of radioactive material (however, a **transnational emergency** does not necessarily imply a **significant transboundary release** of radioactive material); 2) a general emergency at a facility or other event that could result in a significant transboundary release (atmospheric or aquatic) of radioactive material; 3) discovery of the loss or illicit removal of a dangerous source that has been or is suspected of having been transported across a national border; 4) an emergency resulting in significant disruption to international trade or travel; 5) an emergency warranting the taking of protective actions for foreign nationals or embassies in the State in which it occurs; 6) an emergency resulting or potentially resulting in severe deterministic effects and involving a fault and/or problem (such as in equipment or software) that could have serious implications for safety internationally; and 7) an emergency resulting in or potentially resulting in great concern among the population of more than one State owing to the actual or perceived radiological hazard.

Verification The process of confirming that the information in a message is properly understood.

ACC	Area Control Centre (of ICAO)
AGE	Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
AIS	Aeronautical Information Service (of ICAO)
CBRN	Chemical, Biological, Radiological, Nuclear
CoDecS	A multi-protocol platform for environmental emergency notification and handling for the European Commission Urgent Radiological Information Exchange (ECURIE)
ConvEx	**Conv**ention **Ex**ercises (organized by the IAEA)
CRPPH	OECD/NEA Committee on Radiation Protection and Public Health
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organization
EADRCC	Euro-Atlantic Disaster Response Coordination Centre
EAPC	Euro-Atlantic Partnership Council
EC	European Commission
ECG	FAO Emergency Co-ordination Group
ECHO	European Commission Humanitarian Office
ECN	FAO Nuclear Emergencies Crisis Network of Technical Experts
ECURIE	European Community Urgent Radiological Information Exchange
ENSEMBLE	A web-based platform for the inter-comparison and evaluation of atmospheric chemistry transport and dispersion models (of EC)
ERC	Emergency Relief Co-ordinator
ESB	Emergency Services Branch (of OCHA)
EU	European Union
EURODEP	European Radiological Data Exchange Platform
EUROPOL	European Police Office
FAO	Food and Agriculture Organization of the United Nations
FIC	Flight Information Centre (of ICAO)
GDPFS	Global Data Processing and Forecasting System (of the WMO)
GTS	Global Telecommunications Network (of the WMO)
IACRNE	Inter-Agency Committee on Radiological and Nuclear Emergencies
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
IDC	International Data Centre of the CTBTO
IEComm	Operations Manual for Incident and Emergency Communication
IHR	International Health Regulations

ILO	International Labour Organization
IMO	International Maritime Organization
IMS	International Monitoring System of the CTBTO
INEX	NEA's International Nuclear Emergency Exercise
INTERPOL	International Criminal Police Organization
MWO	Meteorological Watch Office (of ICAO)
NAFA	Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
NATO	North Atlantic Treaty Organization
NEA	Nuclear Energy Agency of the OECD
NMC	National Meteorological Centre
NMHS	National Meteorological and Hydrological Service
NMS	National Meteorological Service
NOF	NOTAM Office (of ICAO)
OAS	Organization of American States
OCHA	United Nations Office for the Co-ordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
OOSA	United Nations Office for Outer Space Affairs
OSI	On-Site Inspections of the CTBTO
OSOCC	On-site Operations Co-ordination Centre (mobilised through OCHA)
RODOS	Real-time On-line Decision Support (of EC)
PAHO	Pan American Health Organization
PFP	Partnership for Peace
PTS	Provisional Technical Secretariat of the CTBTO
RANET	IAEA's Response and Assistance Network
RCB	Response Co-ordination Branch (of OCHA)
REMPAN	Radiation Emergency Medical Preparedness and Assistance Network (of the WHO)
RESPEC	Radiological Emergency Support Programme for the European Commission
RO	Regional Offices (of WHO)
RSMC	Regional Specialized Meteorological Centre (of WMO)
RTH	Regional Telecommunications Hub (of the WMO)
SIGWX	Significant weather chart (of ICAO)
TCE-FCEMU	FAO Food Chain Emergencies Management Unit
UNDAC	United Nations Disaster Assessment and Co-ordination Team (mobilised through OCHA)
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
VAAC	Volcanic Ash Advisory Centre (of ICAO)
WAFC	World Area Forecast Centre (of ICAO)
WCO	World Customs Organization
WebECURIE	European Commission's urgent information exchange platform
WHO	World Health Organization
WMO	World Meteorological Organization
WPNEM	OECD/NEA Working Party on Nuclear Emergency Matters

Appendix D

APPENDIX D
Publications of relevance to emergency preparedness and response

General

INTERNATIONAL ATOMIC ENERGY AGENCY, Operations Manual for Incident and Emergency Communication, EPR-IEComm, IAEA, Vienna (2012)

INTERNATIONAL ATOMIC ENERGY AGENCY, Response and Assistance Network, EPR-RANET 2013, IAEA, Vienna (2013)

INTERNATIONAL ATOMIC ENERGY AGENCY, Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, Interim Edition, General Safety Requirements Part 3, No. GSR Part 3 (Interim), IAEA, Vienna (2011)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, OECD NUCLEAR ENERGY AGENCY, UNITED NATIONS OFFICE FOR THE CO-ORDINATION OF HUMANITARIAN AFFAIRS, PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION, Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GS-R-2, IAEA, Vienna (2002)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, UNITED NATIONS OFFICE FOR THE CO-ORDINATION OF HUMANITARIAN AFFAIRS, PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION, Arrangements for Preparedness for a Nuclear or Radiological Emergency, IAEA Safety Standards, Safety Guide No. GS-G-2.1, IAEA, Vienna (2007)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION, Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards, General Safety Guide No. GSG-2, IAEA, Vienna (2011)

INTERNATIONAL ATOMIC ENERGY AGENCY, Protection of the Public for L:WR and RBMK Severe Nuclear Power Plan Emergencies – An Overview, EPR-Public Protection Action Overview 2012, IAEA, Vienna (2012)

EUROPEAN COMMISSION, Radiological protection principles for urgent countermeasures to protect the public in the event of accidental releases of radioactive material, Radiation Protection 87, European Commission, Directorate General Environment (1997)

EUROPEAN COMMISSION, Radiation Protection Principles for Relocation and Return of People in the Event of Accidental Releases of Radioactive Materials, Radiation Protection 64, European Commission, Directorate General Environment (1993)

INTERNATIONAL ATOMIC ENERGY AGENCY, Method for Developing Arrangements for Response to a Nuclear or Radiological Emergency, EPR-METHOD, IAEA, Vienna (2003)

INTERNATIONAL ATOMIC ENERGY AGENCY, OECD NUCLEAR ENERGY AGENCY, The International Nuclear and Radiological Event Scale User's Manual 2008 Edition, IAEA, Vienna (2009)

WORLD HEALTH ORGANIZATION, INTERNATIONAL HEALTH REGULATIONS (2005), World Health Organization, Second Edition, Geneva (2008)

OECD NUCLEAR ENERGY AGENCY, Experience from International Nuclear Exercises: The INEX 2 Series, OECD/NEA, Paris (2001)

OECD NUCLEAR ENERGY AGENCY, Short-term Countermeasures in Case of a Nuclear or Radiological Emergency, OECD/NEA, Paris (2003)

OECD NUCLEAR ENERGY AGENCY, Experience from the Third International Nuclear Emergency Exercise (INEX 3) on Consequence Management, OECD/NEA, Paris (2007)

OECD NUCLEAR ENERGY AGENCY, Strategy for Developing and Conducting Nuclear Emergency Exercises, OECD/NEA, Paris (2007)

OECD NUCLEAR ENERGY AGENCY, Strategic Aspects of Nuclear and Radiological Emergency Management, OECD/NEA, Paris (2010)

OECD NUCLEAR ENERGY AGENCY, Summary of the Workshop on Practices and Experience in Stakeholder Involvement for Post-nuclear Emergency Management, OECD/NEA, Paris (2011)

UNITED NATIONS, Effects of Ionizing Radiation, Volumes I (2008) and II (2009): United Nations Scientific Committee on the Effects of Atomic Radiation, 2006 Report to the General Assembly, with scientific annexes. United Nations sales publications E.08.IX.6 and E.09.IX.5, United Nations, New York.

UNITED NATIONS, Sources and Effects of Ionizing Radiation, Volumes I (2010) and II (2011), United Nations Scientific Committee on the Effects of Atomic

Radiation, 2008 Report to the General Assembly, with scientific annexes. United Nations sales publications E.10.XI.3 and E.11.IX.3, United Nations, New York.

UNITED NATIONS, Report of the United Nations Scientific Committee on the Effects of Atomic Radiation 2010, Report to the General Assembly. United Nations sales publications M.11.IX.4, United Nations, New York (2011).

Transport accidents

INTERNATIONAL ATOMIC ENERGY AGENCY, Regulations for the Safe Transport of Radioactive Material – 2012 Edition, IAEA Safety Standards Series No. SSR-6, IAEA, Vienna (2012)

INTERNATIONAL ATOMIC ENERGY AGENCY, Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material, IAEA Safety Standards Series No. TS-G-1.2 (ST-3), IAEA, Vienna (2002)

Reactor accidents

INTERNATIONAL ATOMIC ENERGY AGENCY, Generic Assessment Procedures for Determining Protective Actions during a Reactor Accident, IAEA-TECDOC-955, IAEA, Vienna (1997)

Radiological emergencies

INTERNATIONAL ATOMIC ENERGY AGENCY, Generic Procedures for Assessment and Response during a Radiological Emergency, IAEA-TECDOC-1162, IAEA, Vienna (2000)

SCK/CEN Report R-3594, A European Manual for 'Off-site Emergency Planning and Response to Nuclear Accidents', prepared for the European Commission Directorate-General Environment, December 2002

INTERNATIONAL ATOMIC ENERGY AGENCY, Manual for First Responders to a Radiological Emergency, EPR-First Responder 2006, IAEA, Vienna (2006)

TMT-Handbook: Triage, Monitoring and Treatment of people exposed to ionizing radiation following a malevolent act. Eds: CR Palma, A. Loland, AN Jerstad, et al. (SCK-CEN, NRPA, HPA, WHO, STUK, Enviros, CLOR, EC), Lobo Media AS, Norway, 2009, 556p.

Emergency monitoring

INTERNATIONAL ATOMIC ENERGY AGENCY, Generic Procedures for Monitoring in a Nuclear or Radiological Emergency, IAEA-TECDOC-1092, IAEA, Vienna (1999)

OECD NUCLEAR ENERGY AGENCY, Monitoring and Data Management Strategies for Nuclear Emergencies, OECD/NEA, Paris (2000)

Meteorology

WORLD METEOROLOGICAL ORGANIZATION, Manual on the Global Data-processing and Forecasting System, (Annex IV to the WMO Technical Regulations), Appendices I-1, I-3 and II-7, WMO-No. 485

WORLD METEOROLOGICAL ORGANIZATION, Documentation on RSMC support for environmental emergency response, WMO-TD/No. 778

Medical aspects

EUROPEAN COMMISSION, Medical effectiveness of iodine prophylaxis in a nuclear reactor emergency situation and overview of European practises, Radiation Protection 165, European Commission, Directorate General Energy (2010)

INTERNATIONAL ATOMIC ENERGY AGENCY, WORLD HEALTH ORGANIZATION, Generic Procedures for Medical Response During a Nuclear or Radiological Emergency, EPR-MEDICAL 2005, IAEA, Vienna (2005)

TMT-Handbook: Triage, Monitoring and Treatment of people exposed to ionizing radiation following a malevolent act. Eds: CR Palma, A. Loland, AN Jerstad, et al. (SCK-CEN, NRPA, HPA, WHO, STUK, Enviros, CLOR, EC), Lobo Media AS, Norway, 2009, 556p.

Food and agriculture

INTERNATIONAL ATOMIC ENERGY AGENCY, Guidelines for Remediation Strategies to Reduce the Radiological Consequences of Environmental Contamination. IAEA Technical Reports Series 475, IAEA, Vienna (2012).

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS/WORLD HEALTH ORGANIZATION; FAO/WHO Framework for Developing National Food Safety Emergency Response Plans; FAO, Rome (2010).

JOINT FAO/WHO FOOD STANDARDS PROGRAMME, Codex General Standard for Contaminants and Toxins in Foods, Schedule I – Guideline Levels for Radionuclides in Foods, (CODEX STAN 193-1995), FAO, Rome (2010).

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, Guidelines for Agricultural Countermeasures Following an Accidental Release of Radionuclides, Technical Reports Series No. 363, IAEA, Vienna (1994).

VOIGT, G. and FESENKO, S. Eds., Remediation of contaminated environments, Elsevier, Amsterdam (2009).

INTERNATIONAL ATOMIC ENERGY AGENCY, Programmes and Systems for Source and Environmental Radiation Monitoring, Safety Reports Series No. 64, IAEA, Vienna (2010).

EUROPEAN COMMISSION, Generic Handbook for Assisting in the Management of Contaminated Food Production Systems in Europe following a radiological emergency, Vol. 2, EURANOS(CAT1)- TN(09)-01 (2009). Available at http://www.euranos.fzk.de.

EUROPEAN COMMISSION, EU Food Restriction Criteria for Application after an Accident, Radiation Protection 105, European Commission, Directorate General Environment (1998)

Illicit trafficking of radioactive material

INTERNATIONAL ATOMIC ENERGY AGENCY, Nuclear Forensics Support, IAEA Nuclear Security Series No. 2, Vienna (2006)

INTERNATIONAL ATOMIC ENERGY AGENCY, Identification of Radioactive Sources and Devices, IAEA Nuclear Security Series No. 5, Vienna (2007)

INTERNATIONAL ATOMIC ENERGY AGENCY, WORLD CUSTOMS ORGANIZATION, EUROPOL, INTERPOL, Combating Illicit Trafficking in Nuclear and other Radioactive Material, IAEA Nuclear Security Series No. 6, Vienna (2007)

APPENDIX E
IACRNE Terms of Reference

Effective Date: 1 January 2011

The Inter-Agency Committee on the Response to Nuclear Accidents (IACRNA) was established after the Chernobyl accident in 1986 as an *ad hoc* inter-agency mechanism to co-ordinate preparedness related to nuclear accidents. Its Terms of Reference included ensuring exchange of information among agencies concerning their respective activities and harmonization of these activities; reviewing progress in joint activities; and identification of new areas for inter-agency co-operation and planning joint actions. Its membership comprised all relevant UN agencies and organizations, focussing on those that are signatories to one or other of the two Conventions (the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency).

The Committee's Terms of Reference were formally amended at the 14th Meeting in November 97 to allow the full participation of other relevant intergovernmental organizations. The scope was also modified to be applicable to preparedness and response.

In the beginning of 1999 a proposal has been prepared for new role of the Committee explicitly covering preparedness and response to nuclear and radiological emergencies. However the decision of 15th Regular IACRNA meeting was that the existing Terms of Reference were broad enough for the time being and that the "Joint Radiation Emergency Management Plan of the International Organisations" (JPLAN) should be the key framework for inter-agency co-operation. Since then the Terms of Reference have been reviewed together with the JPLAN and published in the JPLAN.

Based on the recommendations of the 18th Regular Meeting the revised Terms of Reference were prepared for consideration at the 19th Regular Meeting. At that Meeting minor changes were included in the text. Final version was prepared and distributed for comments and approval by members of IACRNA. One editorial comment was received only by the end of November 2007 and the Terms of Reference became effective on 1 December 2007.

At the 20th Regular Meeting the Committee unanimously decided to change the name to **Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE)** with effective date 1 January 2009.

Based on the recommendations of the 21st Regular Meeting the revised Terms of Reference were prepared reflecting the change of the name and clarifying the status of

Members and observers of the Committee. The revised Terms of Reference were distributed for comments to Members of the Committee. These Terms of Reference became effective on 1 January 2011.

A General Responsibility

1 The Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE) is the co-ordination mechanism between relevant international intergovernmental organizations (international organisations[95]) to ensure that coordinated and consistent arrangements and capabilities for preparedness and response to nuclear and radiological incidents and emergencies are developed and maintained.

B Scope

2 Activities, arrangements and capabilities for preparedness and response to nuclear and/or radiological incidents, and emergencies under the auspices of the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

3 The Committee's activities do not affect the co-operation arrangements defined in the relationship agreements between organizations, and their day-to-day implementation.

C Functions

4 The Committee has the following functions:

a) to coordinate preparedness arrangements for response to nuclear and radiological incidents and emergencies by, *inter alia*, developing, maintaining and exercising the *Joint Radiation Emergency Management Plan of the International Organisations* (JPLAN), that defines the organizations involved in response and preparedness, their roles and responsibilities, interfaces between them, and between them and Member States, concept of operations, preparedness arrangements, and process for improvement;

b) to work towards coordinated and consistent international standards on preparedness and response to nuclear and radiological incidents and emergencies and their practical implementation in Member States and States Parties of the Conventions; and to strongly encourage its participating organizations to meet the relevant standards;

c) to exchange relevant information among organizations concerning their respective plans, activities and harmonization of these plans;

d) to identify new areas for inter-agency cooperation, to plan, coordinate and review joint actions related to preparedness and response for nuclear and radiological incidents and emergencies including exercises;

[95] The term 'international organization' is used to mean 'international intergovernmental organization' including specialized agencies and related organizations of the UN system, relevant programmes, offices or entities of the United Nations, and other relevant non-UN organizations. It excludes non-governmental organizations.

e) to coordinate preparation, conduct and evaluation of international exercises, in coordination with the host country, to avoid duplication and make the most efficient use of resources;

f) to review the JPLAN biennially and issue amendments as appropriate; and

g) to bring to the attention of the respective Executive Heads policy issues that cannot be resolved by the Committee.

D Composition

5 The Committee shall be composed of *participating* and *corresponding* international organisations. *Participating* organisations are those international organisations with activities in the area of nuclear and radiological emergency preparedness and response, and who sponsor the JPLAN. *Corresponding* organisations are other international organisations with activities in the field of emergency preparedness and response who do not sponsor the JPLAN but wish to observe IACRNE activities .

6 Participating organizations are **members** of the Committee and corresponding organizations are **observers**. Each *participating* organisation will nominate its Member of the Committee. Members should be directly responsible for the relevant activities and have the necessary authority to implement change in working procedures and arrangements. Members are expected to attend meetings of the Committee. *Participating* organisations may nominate additional staff as 'observers' to the meetings. Each *corresponding* organisations may nominate an observer to the Committee.

7 All organisations are responsible for bearing the cost of their involvement in the Committee and its activities.

8 International organisations not currently involved in the IACRNE may submit to the Secretariat a request to become a *participating* or *corresponding* organisation, for decision by the Committee Members.

E Secretariat

9 The IAEA provides the Secretariat for the Committee and designates one staff to be the IACRNE Secretary.

10 The IACRNE Secretary shall be responsible for:

a) preparing an invitation, a provisional agenda, and other meeting documents which shall be circulated sufficiently in advance of meetings;

b) preparing meeting reports and keeping record of decisions made by the Committee; dissenting views shall be recorded as such;

c) setting up and maintaining the IACRNE web site to keep each other informed on upcoming meetings, activities, plans, agreements, procedures, publications, news, etc.;

d) inviting representatives of *corresponding organisations* or other persons to attend any of the meetings as deemed appropriate by the Committee;

e) informing and liaising with *corresponding organizations* on behalf of the Committee; copies of the minutes of the Committee and the JPLAN should be provided to *corresponding organizations* as a minimum;

f) inviting to the meeting other ad-hoc experts as appropriate.

F Meetings

11 The Committee shall meet regularly, approximately every 12 to 18 months or as deemed necessary, according to a rotating schedule established by the IACRNE Secretary in consultation with other Members.

12 The Meeting shall be chaired by the Meeting Chair. The Meeting Chair shall preferably be from the organization hosting the Meeting.

13 The IACRNE Secretary can, in consultation with the Committee, convene extraordinary meetings.

14 Each organization will bear the cost of its representation.

15 In planning dates of meetings, due consideration will be given to holding meetings adjacent to other relevant activities in order to save time and money. Other means to improve communication between Members shall be used where appropriate.

G Reporting

16 The Committee Members are responsible for reporting back to their respective agencies/organizations.

17 All formal communications will be sent to the Executive Heads of the respective organizations with a copy to the existing Committee Member; informal communications need only be sent to the latter.

18 Electronic mail should be used as a prime mechanism for informal communication.

19 Conference/video calls should be used when rapid consultations are required.

H Operating Guides

20 The following are the Committee's operating guides:

a) the Committee Members will make decisions by consensus;

b) each Member is responsible for consulting all other relevant staff in their organizations and their points of contact in the Member States as necessary in advance of meetings and according to the agenda;

c) any decisions that require approval at a higher level within an organization will not be binding until such approval is formally obtained;

d) the Committee may set up *standing* working groups to address key parts of the JPLAN or to work in common areas of interest; and

e) the Committee may set up *ad hoc* task groups to address and resolve common open issues.

I Duration

21 These Terms of Reference enter into force on January 1, 2011. They shall be reviewed biennially together with the JPLAN.

IAEA
International Atomic Energy Agency

Where to order IAEA publications

In the following countries IAEA publications may be purchased from the sources listed below, or from major local booksellers. Payment may be made in local currency or with UNESCO coupons.

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IAEA Publications in Chinese: China Nuclear Energy Industry Corporation, Translation Section, P.O. Box 2103, Beijing

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