

Joint Radiation Emergency Management Plan

*of the
International Organizations*

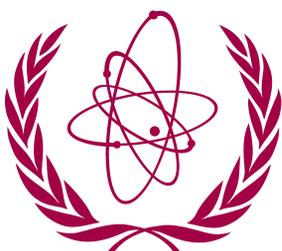
JOINTLY SPONSORED BY THE EUROPEAN COMMISSION, EUROPOL, FAO, IAEA,
INTERPOL, IMO, OECD/NEA, PAHO, UNEP, UN/OCHA, UN/OOSA, WHO, WMO



IN CO-OPERATION WITH ICAO, UNSCEAR



DATE EFFECTIVE: 1 JANUARY 2010



IAEA

International Atomic Energy Agency

IAEA SAFETY 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, and also general safety (i.e. all these areas of safety). The publication categories in the series are **Safety Fundamentals**, **Safety Requirements** and **Safety Guides**.

Safety standards are coded according to their coverage: nuclear safety (NS), radiation safety (RS), transport safety (TS), waste safety (WS) and general safety (GS).

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 P.O. 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.

OTHER SAFETY 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**.

Joint Radiation Emergency Management Plan

of the International Organizations

European Commission

European Police Office

Food and Agriculture Organization of the United Nations

International Atomic Energy Agency

International Criminal Police Organization

International Maritime Organization

Nuclear Energy Agency of the
Organisation for Economic Co-operation and Development

Pan American Health Organization

United Nations Environment Programme

United Nations Office for the
Co-ordination of Humanitarian Affairs

United Nations Office for Outer Space Affairs

World Health Organization

World Meteorological Organization

In co-operation with the:

International Civil Aviation Organization

United Nations Scientific Committee on the
Effects of Atomic Radiation



This publication has been prepared by the:

Incident and Emergency Centre
Department of Nuclear Safety and Security
International Atomic Energy Agency
Wagramer Strasse 5
P.O. Box 100
A-1400 Vienna, Austria

JOINT RADIATION EMERGENCY MANAGEMENT PLAN OF THE INTERNATIONAL ORGANIZATIONS
IAEA, VIENNA, 2010
EPR-JPLAN (2010)

© IAEA, 2010

Printed by the IAEA in Austria

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 specific event of a radiation emergency¹, with the aim of minimizing the consequences. The International Atomic Energy Agency (IAEA) has specific functions assigned to it under these Conventions, to which, in addition to a number of States, the European Commission (EURATOM), the World Health Organization (WHO), the World Meteorological Organization (WMO) and the Food and Agriculture Organization of the United Nations (FAO) are full Parties. Since 1989, the arrangements between these organizations for facilitating the practical implementation of those articles of the two Conventions that are operational in nature have been documented by the IAEA in the Emergency Notification and Assistance Technical Operations Manual (ENATOM)². The manual is intended for use primarily by contact points as identified in the Conventions.

In addition to the ENATOM arrangements and pursuant to the obligations placed on it by the Conventions, the IAEA regularly convenes the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE)³, whose purpose is to co-ordinate the arrangements of the relevant international intergovernmental organizations (‘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 e.g. the International Health Regulations 2005) — general functions and responsibilities that encompass aspects of preparedness and response in this context. Moreover, some regional organizations (e.g. the European Commission) are party to legally binding treaties and have directives and regulations that bear on emergency response arrangements among some States. There are also bilateral agreements between some international organizations that also have relevance to preparedness and response arrangements.

In 2002, the IAEA issued Safety Requirements, entitled “*Preparedness and Response for a Nuclear or Radiological Emergency*” (GS-R-2), jointly sponsored by the FAO, IAEA, the International Labour Organization (ILO), the OECD Nuclear Energy Agency (OECD/NEA), the United Nations Office for the Co-ordination of Humanitarian Affairs (OCHA), the Pan American Health Organization (PAHO) and WHO. These Safety Requirements imply additional expectations with regard to operational emergency 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), which describes: the planning basis; the organizations involved in response, their roles and responsibilities, and the interfaces among them and between them and States; operational concepts; and preparedness arrangements. These arrangements are reflected in the emergency management plans of the various organizations.

The IAEA is the main co-ordinating 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.

¹ A radiation emergency is the same as a ‘nuclear or radiological emergency’.

² EPR-ENATOM (2010): Emergency Notification and Assistance Technical Operations Manual, IAEA, Vienna (2010). This manual describes the conceptual link between the IAEA, all other international intergovernmental organizations, States that are IAEA Member States and/or Parties to one or both Conventions, and other States under the terms of the two Conventions.

³ The Inter-Agency Committee for the Co-ordinated Planning and Implementation of Response to Accidental Releases of Radioactive Substances (now named IACRNE) was established following a meeting of representatives of FAO, UNEP, ILO, UNSCEAR, WMO, WHO and IAEA at the Special Session of the IAEA General Conference in September 1986.

Nothing in the Joint Plan should be construed as superseding the arrangements in place in the international organizations or in the Member States. However, all States irrespective whether they are Party to one or the other of the two Conventions are invited to consider these arrangements in their own emergency management plans.

This document is the fifth edition of the Joint Plan. It describes the arrangements as envisaged from 1 January 2010.

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 maintained on the IAEA's public web site under <http://www-ns.iaea.org/tech-areas/emergency/inter-liaison.htm>.

DISCLAIMER NOTICE

The views expressed do not necessarily reflect those of the governments of States that are Member States of participating organizations or of other international organizations, or of the governments of other States.

Although great care has been taken to maintain the accuracy of information contained in this Plan, the IAEA, the other participating organizations and their Member States do not assume any responsibility for consequences that may arise from its use.

NOTES FOR THE USER

This Plan describes arrangements operative from 1 February 2010 and supersedes all previous editions. All copies of previous editions should now be removed from operational response systems and either archived or destroyed.

The 2010 edition incorporates the following main changes:

- Revised structure according to IAEA Safety Standards Series No. GS-R-2, Preparedness and Response for a Nuclear or Radiological Emergency;
- Revised event classification;
- Elaborated response actions;
- Entry into force of relevant international instruments;
- Additional clarification of arrangements and response tasks;
- Additional clarification of international exercises;
- Updated capabilities and contact details of participating organizations.

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

facsimile number: +43 1 26007 29309;

telephone number: +43 1 2600 22028;

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 irrespective of its cause.

The application of the Joint Plan is limited to the following international organizations⁴, namely 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 **International Criminal Police Organization (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)**. The IAEA is the main coordinating body for maintenance of the Joint Plan.

The Joint Plan is intended neither to interfere with nor to replace any emergency response arrangements of States or international organizations. However, all States are invited to consider these arrangements in their own emergency management plans, where appropriate.

Planning basis

States have the ultimate responsibility to protect life, health, property, the environment and quality of life on their territories. National regulatory bodies require site-specific emergency plans for their nuclear installations. Despite extensive precautions, if a release of radioactive material can lead to an actual, potential or perceived emergency, other States will need information to be able to advise on any protection issues and consider the need for environmental monitoring. In other radiation incidents or emergencies (e.g. involving radioactive sources) State authorities and international organizations need authoritative information to address the 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 nuclear accident or radiological emergency. In addition, various international organizations may have roles under these Conventions or other international instruments, or other statutory and legally assigned functions related to international exchange of relevant information, assistance or other aspects of emergency management.

Emergency response

In accordance with both Conventions, the IAEA — as the focal organization for response — has prime responsibility to activate this inter-agency response system. It receives reports of an incident or emergency from a designated competent authority in a State and verifies any unconfirmed reports. It establishes primary functional links with the reporting State and any affected States, providing direct communication with their national radiation emergency response organizations. It also establishes functional links with relevant

⁴ Participating organizations of Inter-Agency Committee on Radiological and Nuclear Emergencies.

international organizations. These organizations may establish links with other competent agencies, regional centres and programmes that are prepared to provide information/advice or assistance. Emergency communication channels include voice, fax, the internet and dedicated networks.

The IAEA shares information with other relevant international organizations. If any other participating international organization receives a request for information/advice or assistance in case of a radiation incident or emergency it will inform the IAEA and other relevant international organizations and coordinate the provision of advice or assistance with them in accordance with their respective mandates and obligations.

If a State requests the IAEA for assistance under the Assistance Convention the provision of assistance will follow the IAEA's Response Assistance Network (RANET) process the IAEA 1) informs States and international organizations that could provide assistance; 2) evaluates the situation, in coordination with relevant international organizations, and may send an initial assessment team in agreement with the requesting State; 3) develops, in coordination with the assisting parties, a detailed assistance action plan and upon acceptance of the plan by all involved parties, 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 between participating international organizations to ensure that coordinated and consistent arrangements for preparedness and response to radiation incidents and emergencies are developed and maintained.

Detailed inter-agency procedures, communication channels and response arrangements, including those for providing media information, are documented separately from this Plan, and formalized by a simple exchange of letters between the parties. They may be updated from time to time independently of this Plan. The Plan and any related supporting material reflect these inter-agency arrangements, and are reviewed at least biennially and revised if necessary.

The Committee is a mechanism for coordinating international exercises organized by any IACRNE 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 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 Plan.

Contents

1.	INTRODUCTION.....	9
1.1.	Purpose and objectives	9
1.2.	Scope	10
1.3.	Participating international organizations	10
1.4.	Authorities for the Plan	10
1.5.	Relationship to other plans.....	10
2.	PLANNING BASIS	13
2.1.	Hazard identification and vulnerabilities	13
2.2.	Roles and responsibilities.....	14
2.3.	Response objectives	16
2.4.	Co-ordination of inter-agency response	16
2.5.	Financing.....	17
2.6.	Guiding principles.....	17
2.7.	Concept of operations	17
3.	EMERGENCY RESPONSE	23
3.1.	Event classification	23
3.2.	Emergency communications	23
3.3.	Provision of advice and assistance	24
3.4.	Public information.....	25
3.5.	Emergency deactivation	25
3.6.	Post-emergency follow-up.....	25
3.7.	Participating organizations' response actions	26
4.	EMERGENCY PREPAREDNESS.....	43
4.1.	General responsibilities	43
4.2.	Basis for preparedness	43
4.3.	Inter-agency procedures and arrangements	44
4.4.	Financing.....	44
4.5.	Feedback from actual responses	44
4.6.	Training and exercises	44
4.7.	Reviews of the Joint Plan and inter-agency arrangements	46
4.8.	Maintenance of the Plan.....	46
4.9.	Co-operation in developing national capabilities	47
	DISTRIBUTION	41

APPENDIX A: LEGAL INSTRUMENTS, RESOLUTIONS AND OTHER RELEVANT SOURCES

APPENDIX B: AUTHORITIES, RESPONSIBILITIES AND CAPABILITIES OF INTERNATIONAL ORGANIZATIONS

APPENDIX C: GLOSSARY AND ABBREVIATIONS

APPENDIX D: PUBLICATIONS OF RELEVANCE TO EMERGENCY PREPAREDNESS AND RESPONSE

1. INTRODUCTION

1.1. Purpose and objectives

The purpose of this Plan is to describe the inter-agency framework for preparedness for and response to a radiation⁵ incident or emergency irrespective of its cause.

In particular, its objectives are:

1. To provide a common understanding of the emergency preparedness and response roles and responsibilities, objectives, authorities, capabilities and arrangements of each participating international organization, and any relevant inter-agency arrangements;
2. To provide an overall concept of operations between the international organizations based on the emergency response objectives, responsibilities, authorities, capabilities and arrangements of each participating international organization, and any existing inter-agency arrangements, in order to facilitate a timely, effective and co-ordinated response;
3. To facilitate development of agreements among the participating international organizations on practical issues, if appropriate;
4. To provide a common understanding of the process for improving and changing the inter-agency response arrangements;
5. To provide a common understanding of 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 the 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 organization;
8. To draw the attention of personnel in States and international organizations⁶ to these arrangements and to facilitate the development of compatible arrangements, if appropriate.

⁵ Nuclear or radiological

1.2. Scope

The Joint Plan describes the arrangements of the participating international organizations⁷ for responding to a radiation incident or emergency (including a conventional emergency that has actual, potential or perceived radiological consequences), and the measures for developing, maintaining, exercising and improving these arrangements.

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 international organizations

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 **International Criminal Police Organization (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 Plan.

1.4. Authorities for the Plan

Each participating organization has various statutory and other legally assigned functions. Appendix A of this 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 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 neither to interfere with nor to replace any emergency response arrangements of States or international organizations. However, all States are invited to consider these arrangements in their own emergency management plans, where appropriate.

⁶ Particularly those not participating in the Joint Plan.

⁷ In the context of this Plan, the term 'international organization' is used to mean '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.

The Joint Plan is formally made available to all States and international organizations in parallel with the Emergency Notification and Assistance Technical Operations Manual (ENATOM). The Joint Plan does not include detailed procedures for its implementation.

The Joint Plan is intended to reflect the arrangements of the participating organizations, and be in harmony with their specific plans, procedures and in accordance with their respective mandates and obligations.

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 practices that involve radiation or radioactive material used for agricultural, industrial, medical, scientific and other purposes. Such facilities and practices include, for example, the manufacture and transport of radioisotopes and their uses; uses of radiation generators and radioactive sources; and satellites carrying radioactive material.

2.1.1. Emergencies specific to nuclear installations

Although the probability of emergencies at nuclear installations⁸ 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 material⁹ 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 on trade and travel and other protection issues to their domestic population and to nationals working abroad. Even for events without significant radiological releases, there may be considerable public anxiety, and national 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 reactor or fuel cycle facility (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 emergency at large nuclear installations, the radiological consequences of an event will always be localized (for example,

⁸ This relates to threat categories I and II as defined in Table I of GS-R-2.

⁹ Accidental or malicious

¹⁰ This relates to threat category III as defined in GS-R-2.

radioactive spills, fuel handling emergencies, loss of shielding or loss of control for a large gamma emitter). Other radiological emergencies can occur when, for example, an uncontrolled radiation source (a so-called 'orphan' source) or radioactive contamination appears in the human environment; an accident or deliberate act that leads or may lead to a release of radioactive material to the environment (e.g. radiological dispersion or exposure device), exposing workers or the public; an accident during transport of radioactive material; or a space object containing radioactive material falls back to earth.

Although emergencies such as these would be expected to affect few people, they are more likely¹¹ 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. Their scale can range from a severe exposure of a single individual to a mass casualty event.

2.1.3. Unconfirmed radiation emergencies or threats

Situations may occur that might indicate a possible unconfirmed radiation emergency¹² or threat thereof, for example, the appearance of traces of radionuclides in the air, food or other commodities, or an unsubstantiated rumour. Competent authorities in States and international 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 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, and takes account of their rights and duties under international law. Bilateral or multilateral arrangements, or where appropriate a combination of these, between States for preventing or minimizing injury and damage are a useful support to these responsibilities.

2.2.2. International responsibilities

The roles and responsibilities of the international 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 critical response tasks of the participating organizations are given in Table 1. More details on the responsibilities, authorities 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 affected States and the IAEA of a significant transboundary release and provide relevant information to minimize the consequences. The IAEA forthwith informs States Party, IAEA Member States, other States that may be affected and relevant international organizations of the notification received and, on request, promptly provides them with relevant information received.

¹¹ The IAEA typically assists countries to respond to radiological emergencies around four times in a year.

¹² The IAEA typically receives a few reports about possible emergencies per month that need verification.

TABLE 1: Critical response tasks and responsible organizations

Critical response tasks	Responsible
To activate inter-agency emergency response	IAEA
Initial notification or advisory	
To notify or advise - IAEA - additionally OOSA if space object re-entry - additionally EC if radiation emergency affecting EC countries, Croatia or Switzerland	States int. organizations
To inform forthwith States and relevant international organizations	IAEA
To inform about atmospheric releases of radioactive materials - aircraft in flight - vessels at sea or in port	ICAO IMO
Exchange of information	
To disseminate promptly substantive information	IAEA
To facilitate exchange of international criminal intelligence	INTERPOL, EUROPOL
To inform EU countries on the basis of ECURIE arrangements	EC
Coordination	
To co-ordinate - inter-agency response to radiation emergency - overall inter-agency humanitarian response to disasters or complex emergencies - provision of international humanitarian assistance - Public health risk assessment and response	IAEA OCHA OCHA WHO, PAHO
Advice or assistance (on request directly from a State or through international organization)	
To offer good offices	IAEA
To send request for advice or assistance to relevant international organizations	IAEA
To arrange for advice or assistance on - potential radiological hazards, assessment of facility conditions and accident mitigation - weather information (observations, forecasts, and warnings) - atmospheric transport and dispersion predictions - physical dosimetric measurement services - radiological assessment and application of international standards - public health risk assessment and response - biological and clinical dosimetry - re-establishing disrupted police services - radiation protection support, personnel and equipment for operations in affected areas - emergency medical response including diagnosis and treatment of radiation casualties - longer term medical follow-up - mitigation of mental health impact - agricultural countermeasures - environmental monitoring and sampling programmes for interventions related to food - implementation and enforcement of control measures for imported and exported food/feed - control of food and feed - investigating crimes and seeking international suspects - environmental monitoring and sampling programmes and assessment of long term impact - relocation, resettlement - decontamination, waste management - response on a vessel at sea or in port	IAEA IAEA IAEA WMO WMO IAEA IAEA WHO, PAHO WHO, PAHO, IAEA INTERPOL IAEA WHO, PAHO, IAEA WHO, PAHO WHO, PAHO FAO IAEA, FAO FAO FAO, WHO INTERPOL IAEA, UNEP, FAO IAEA, UNEP IAEA IMO
Public information	
To confer and agree , to the extent possible, on the content of any media/press releases	Relevant organizations
Evaluation of impact	
To assess the levels and effects of the radiation exposure and disseminate findings to the UN General Assembly, the scientific community and the public	UNSCEAR

Under Article 2, States Parties to the Assistance Convention 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 Governors¹³ has authorized the IAEA Secretariat 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 available¹⁴. These articles place an important responsibility on the IAEA as 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 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 in inter-agency response, the participating organizations need to co-ordinate their response arrangements and actions among themselves and with the relevant competent authorities, ensuring clear lines of responsibility and authority in accordance with their respective mandates and obligations. Co-ordination is also needed in preparedness, particular with respect to the organization and conduct of international exercises, to facilitate an effective, prompt and appropriate response in a real event.

The objectives of co-ordination of 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 Member States' capabilities with respect to coordination with the international organisations;
- To facilitate a common understanding of the situation, its consequences, and the way it is expected to develop, through exchange of information (which may include monitoring and technical data);
- To foster a common approach, respecting their individual mandates, on developing emergency related advice requested by Member States and on statements to the media and the public;

¹³ 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.

¹⁴ Article 2 of the Assistance Convention

- To exchange information regarding actions taken, as appropriate, or information released;
- To promote the efficient and coordinated provision of assistance to Member States in accordance with their mandates, since several organizations may be approached with the same request;
- To facilitate ad hoc agreements on the division of work among international organizations, which may be needed in an emergency situation to solve any other practical problems.

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

2.5. Financing

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

2

2.6. Guiding principles

Emergency response and preparedness actions by the participating organizations are carried out in a manner consistent with their statutory roles and 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 participating organizations as well as the relevant requirements of international standards, in particular with the GS-R-2. 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 are co-ordinated in respect of response to particular radiation incident or emergency;
- d) sufficient resources are made available for response, and are available 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 and Member States.

2.7. Concept of operations

The concept of operations recognizes the pre-eminent role of national governments for protecting life, property and the environment on their territories, consistent with their obligations under international law. The concept of operations recognizes the IAEA's role in co-ordinating response by international organizations to radiation

incident or emergencies, and OCHA's role in co-ordinating humanitarian response, and WHO's and PAHO's role regarding 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 or the environment, the size of any affected area, and the level of public interest and the types of activities needed to support Member States.

In accordance with the relevant conventions, the IAEA has the prime responsibility to trigger 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 authority¹⁵ 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 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 competent organizations or agencies, regional centres and programmes that are prepared to provide assistance¹⁶, ¹⁷. The general framework is represented in Figure 1.

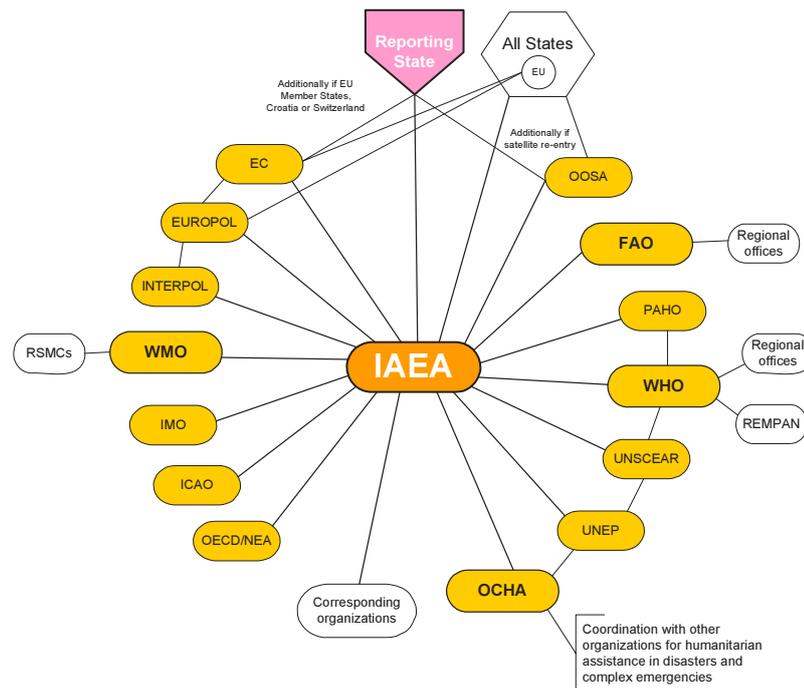


Figure 1: Framework for the inter-agency response coordination to radiation incidents or emergencies. Each organization may have links with the relevant authorities in its own Member States for performing its usual functions.

¹⁵ 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.

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.

Depending upon the nature of the event, it can be assumed that certain other international organizations¹⁸ 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 (e.g. an earthquake affecting a reactor) the functions and responsibilities of this Plan remain the same. In this case the IAEA co-ordinates the management of the international response to the radiation emergency while OCHA is responsible for supporting the affected country with the overall coordination of the international humanitarian assistance and WHO/PAHO coordinates public health response when requested.

2.7.1. Emergency information exchange

States and/or international organizations are expected to 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 other States Parties to the Assistance Convention 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 or other States of a developing situation so that they can be ready to respond should the situation worsen; 5) for the IAEA, other international organizations, or other 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 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:** An official report submitted to a national or international authority by an authorized competent authority under international treaty or according to international safety standards providing details of an actual or potential radiation emergency; for example, as required by the Early Notification Convention, or under the provisions of outer space treaties, or international safety standards.
2. **Advisory:** An official report submitted to a national or international authority by an authorized competent authority providing details of an actual or potential 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 is illustrated in Figure 2. The reporting State sends an initial notification or advisory message to the IAEA indicating the date/time, location and nature of the incident or emergency (normally expected to include an emergency class and/or conditions). The IAEA authenticates/verifies the

¹⁸These could include, for example, the World Customs Organization, the International Labour Organization, the United Nations Educational, Scientific and Cultural Organization, United Nations Department of Safety and Security, and the North Atlantic Treaty Organization Civil Emergency Planning.

report with the competent authority of the reporting 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 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 emergency information exchange system (ECURIE) to authenticate the message and retransmit it, and any subsequent information, to the designated contact points¹⁹ in each Member State of the European Union, Croatia and Switzerland.

In the case of a re-entry or possible re-entry of a satellite or other space object with nuclear power sources²⁰ on board, the launching State²¹ of the satellite or space object additionally transmits notifications to other concerned States and OOSA²².

2

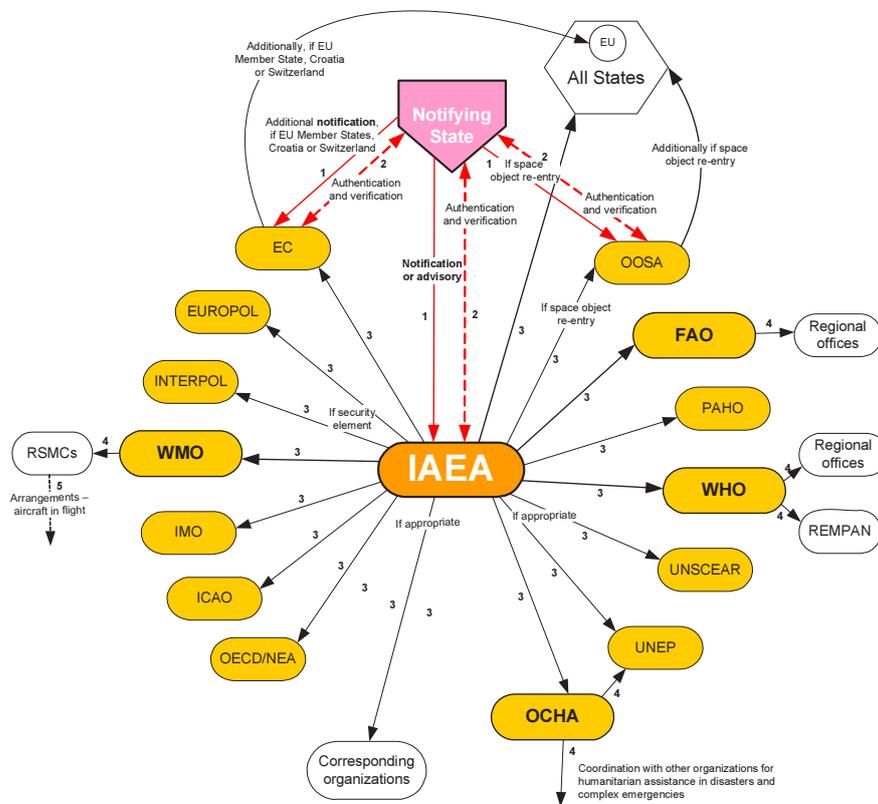


Figure 2: Concept of operations for initial notification or advisory of a radiation incident or emergency. Numbers indicate the order in which information will be cascaded. In addition to the processes shown here, the notifying State is normally expected to notify affected States directly. Note also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

¹⁹ 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.

²⁰ Including nuclear reactors and radioisotope thermal generators.

²¹ 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.

²² Ibid., Principle 5.

If an international organization becomes aware of a possible radiation incident or emergency for which the IAEA has not provided any official information, it informs the IAEA respecting aspects of confidentiality. If appropriate, the IAEA verifies the report with the relevant competent authorities or international organizations and requests an appropriate notification or advisory message. If the information cannot be substantiated, the IAEA reports this to the original reporter. With the aim of limiting and correcting the spread of false information, the IAEA may: inform States; post information on IAEA’s emergency web site²³; and/or, in co-ordination with the relevant States as appropriate, publish information on IAEA.ORG²⁴ and/or issue a press release to the media.

Figure 3 provides an overview of the 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 Incident and Emergency Centre (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) reports the information as appropriate to States and/or relevant international organizations; and 2) posts the information as appropriate on the IAEA’s protected web site for incident and emergency communications (IAEA’s emergency web site).

States or international organizations may request support from the IAEA to obtain information. If it is available, the IAEA 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. Respecting any confidentiality constraints, the IAEA 1) actively reports the information as appropriate to the requesting State; and/or 2) posts the information as appropriate on the IAEA’s emergency web site, and/or 3) establishes hyperlinks to the relevant party’s web site.

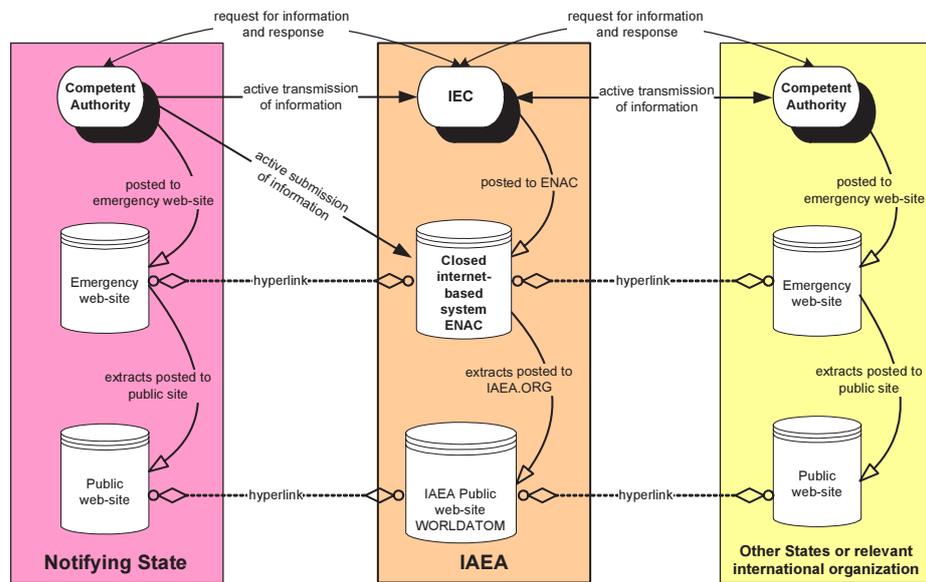


Figure 3. Concept of operations for emergency information exchange.

²³ The IAEA’s “Emergency Notification and Assistance Convention” protected web site.

²⁴ IAEA.ORG is the IAEA public site on the World Wide Web.

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 IAEA.ORG public web site (see Public Information). The IAEA's emergency web site provides hyperlinks to the IAEA public web site and to other relevant web sites.

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 shall normally only be provided on a strict need-to-know basis.

2.7.2. International assistance

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

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

Table 2: Classification of nuclear and radiological events

General emergency	An actual or substantial risk of a release or radiation exposure warranting taking urgent protective actions off the site
Site area emergency	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	A major decrease in the level of protection for people on the site; can not give rise to an off-site hazard
Alert	An uncertain or significant decrease in the level of protection for the public or people on the site
Radiological emergency	Any incident or emergency which is of actual, potential or perceived radiological significance and is not nuclear incident or emergency
Radiation threat	Communicated threat to commit acts potentially resulting in an actual or perceived radiation emergency

3.2. Emergency communications

3.2.1. Communication channels

Communication channels include facsimile, email, telephone and protected web sites including IAEA's emergency web site. They are used:

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

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

During an emergency period, the IAEA arranges for regular telephone or video conference calls with the international organizations. The IAEA's IEC, when activated, maintains a dedicated telephone line for communication with other international organizations.

3.2.2. On-going liaison

If a radiation emergency is of such a magnitude that the response of international organizations will continue for several days and considerable technical coordination will be required, each relevant international organization will consider participating directly at 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 to the humanitarian relief effort.

3.3. Provision of advice and assistance

Participating international organizations will follow their own procedures when rendering specific assistance directly to the requesting State²⁵. Provision of advice or assistance through the IAEA will follow the IAEA's Response Assistance Network process.

3.3.1. Provision of technical advice

If, following a request by a State for advice or services of any relevant international organization, the subject matter of the advice requested involves the competence of more than one organization, the relevant organizations shall, to the extent possible, confer and agree on the advice to be provided. Technical advice shall, to the extent possible, be in accordance with international standards and practise²⁶.

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

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

²⁵ Such procedures should include informing the IAEA about the advice and assistance requested and/or provided.

²⁶ 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.

- 1) The IAEA's IEC, which is the focal point for response coordination, informs the relevant international organizations that may be able to provide assistance and co-ordinates the resources to be allocated.
- 2) The IEC evaluates the situation and, in co-ordination with relevant international organizations, provides initial advice to competent authorities.
- 3) The IEC may send an initial field response 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 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 international organizations), team leadership, communication protocols, media arrangements etc.
- 4) If additional actions are needed, the IEC develops, in co-ordination with assisting States and other international 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 will be implemented. If needed, additional resources may be placed on standby.
- 5) Upon termination of assistance resources will be demobilized.

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

3.4. Public information

Any media releases issued by participating international organizations will be factual and based on the role and responsibilities of and actions taken by the relevant organization. Where the subject matter of the media release involves the competence of more than one organization, the relevant organizations coordinate, consult with each other and agree, to the extent possible, on the content of any media releases. Should this not be possible, the organizations should limit their media releases 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. Copies of any releases 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 relevant organization's web site.

The IACRNE maintains a list of public information officers in the participating 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 IEC will inform those contact points that have been activated that the IEC is deactivating, and will post the status of

the IEC on IAEA's emergency web site. Other organisations will deactivate according to their appropriate criteria, and prepare for any ongoing activities as part of long-term recovery.

3.6. Post-emergency follow-up

At the request of one of the Committee members, the Secretary of the Committee consults with other members with a view to convening a special meeting of the IACRNE. The objectives of such a meeting include the following:

- a) to share technical and administrative information about the emergency, its consequences and actions taken or planned;
- b) to coordinate the long-term follow-up strategy and activities of the relevant international organizations to avoid critical gaps, duplication, inconsistencies and inefficiencies, consistent with the mandates of the various organizations;
- c) to analyse and document lessons identified from the emergency and its response, and to plan and implement actions to systematically address these lessons in the context of the Joint Plan.

The IACRNE will, to the extent possible, encourage participating organizations to take coordinated and appropriate action to ensure any long term follow-up and to learn lessons from the emergency and the response to it.

3.7. Participating organizations' response actions

Six sets of incident or emergency conditions (four classes of events specific to nuclear installations and two other types – see event/emergency classification above) are used to describe various events or situations that warrant response actions under this document.

Major response actions that are expected from participating international organizations in each event class are described in the following tables. Actions are grouped under initial notification, information exchange, provision of advice or assistance and public information.

Emergency Class: GENERAL EMERGENCY

Description:	An actual or substantial risk of a release or radiation exposure 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 malicious act 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 GS-R-2 requirements, are expected to notify , provide relevant information and respond to requests for information concerning 'general emergency'.
Voluntary:	NA
Recommendation:	Time from classifying the emergency until notification is achieved: < 30 min

Emergency Class: GENERAL EMERGENCY

Response actions

Initial notification

IAEA	<ul style="list-style-type: none"> - 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 States²⁷, 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
EC	<ul style="list-style-type: none"> - Authenticates incoming initial notification from the notifying State - Promptly forwards the unedited information to ECURIE Member States and IAEA by CoDecS and Fax - Activates an Emergency team to handle related communications on a 24/7 basis - Contacts any ECURIE Member State who has not responded to the initial notification within one hour of sending - Requests EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC²⁸ technical support arrangements
EUROPOL	- May be put on standby in case of actual or suspected malicious act
FAO	<ul style="list-style-type: none"> - Assigns liaison officers (AGE) to the IAEA's IEC in Vienna - Nuclear Emergency Crisis Network of Technical Experts (ECN) is put on standby
INTERPOL	- May be put on standby in case of actual or suspected malicious act
IMO	- May be put on standby if contamination of vessels at sea or in ports is possible
PAHO	<ul style="list-style-type: none"> - Alerts country offices and regional experts - Activates the EOC
OCHA	- May be put on standby and mobilise its tools and services in case of a complex emergency or if international humanitarian assistance is envisaged
OOSA	- None

²⁷ States within 1000 km from the NPP or 50 km from the research reactor that declared 'general emergency'.

²⁸ RESPEC is a contractual arrangement between the EC and the Competent Authority of an EU Member State to provide information and services to the Commission in the event of a radiological emergency, see Glossary.

Emergency Class: GENERAL EMERGENCY	
Response actions	
WHO	<ul style="list-style-type: none"> - Alerts respective WHO regional and country offices, puts the REMPAN network on standby if a significant atmospheric radioactive release and casualties are envisaged - Initially assesses potential public health implications - Considers additional steps as appropriate, including potential dissemination of information to States Parties
WMO	- Activates, and retransmits ²⁹ initial notification received from the IAEA to all State NMHSs
ICAO	- May be put on standby if significant atmospheric radioactive release is projected or envisaged
Further information from the notifying State	
IAEA	<ul style="list-style-type: none"> - 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 - Uses fax for distribution of further information only if convenient or as a back up option
EC	- Promptly forwards the information to ECURIE member States and IAEA by CoDecS or Fax
FAO	- Assumes contact with the relevant FAO Representative if there is one in the country, and passes on any relevant information to AGE
WHO	<ul style="list-style-type: none"> - Contacts with National IHR Focal Point in the affected State Party - Continues close liaison of HQ, regional and country offices involved - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance needs, when requested - Considers dissemination of information as appropriate to States Parties and others, including on Event Information Site - Continues public health surveillance
WMO	- Retransmits ³⁰ relevant information received from the IAEA to all NMHSs
Further notification in case of radioactive release in the environment (or change in emergency classification)	
IAEA	<ul style="list-style-type: none"> - 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 States³¹, 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
EC	<ul style="list-style-type: none"> - Promptly forwards the unedited information to ECURIE Member States and IAEA by CoDecS or Fax - May activate ENSEMBLE arrangements and inform ECURIE Member States where atmospheric dispersion predictions may be found (URL) - May invoke EU emergency food and feeding stuffs regulations
FAO	- Maintains readiness to support AGE in the early phases if requested
ICAO	<ul style="list-style-type: none"> - Inform/alert aircrafts in flight about atmospheric release - Advise aircrafts in flight on possible routes
IMO	<ul style="list-style-type: none"> - Inform/alert the national maritime authority of an atmospheric release that may impact on vessels at sea or in port - Advise vessels at sea or in port on possible response actions
WHO	<ul style="list-style-type: none"> - Continue as above - Activate REMPAN if appropriate
WMO	- Retransmits ³⁰ relevant information received from the IAEA to all NMHSs
Request for information	
IAEA	<ul style="list-style-type: none"> - 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

²⁹ As a backup to the IAEA report of the notification and in order to speedily activate meteorological support.

³⁰ As a backup to the IAEA report of the notification and in order to speedily activate meteorological support.

³¹ States within 1000 km from the NPP or 50 km from the research reactor that declared 'general emergency'.

Emergency Class: GENERAL EMERGENCY	
Response actions	
WHO	- May request additional information from IAEA, other international organizations and/or State Party affected as necessary for public health response
Other	- May submit requests for information to the IAEA
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 about major response actions
Meteorological products	
IAEA	- Request and receives meteorological and atmospheric dispersion/transport predictions from the lead WMO RSMCs whose responsibilities include the notifying State - 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 request parameters, or with default scenario parameters if none are provided - When IAEA requests it, distribute products to the IAEA, WMO and NMHSs in their WMO Region(s) of responsibility - Disseminate ³² the information to ICAO meteorological watch offices (MWOs) and world area forecast centres (WAFCs)
WMO RSMCs (non-lead)	- Generate basic products based on IAEA request parameters, or with default scenario parameters if none are provided - When IAEA requests it, distribute products only to the NMHSs in their WMO Region(s) of responsibility and to the WMO - Disseminate ³² the information to ICAO meteorological watch offices (MWOs) and world area forecast centres (WAFCs)
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 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 <i>The provision of international assistance follows the IAEA Response Assistance Network (RANET) process</i>
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 ³³ <i>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</i>
Public information	
IAEA	- Publishes notifying State press releases or URL of public web site on IAEA's emergency web site

³² In practice, this information is disseminated to MWOs through NMHSs.

³³ 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	
	<ul style="list-style-type: none"> - 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 by and role of the IAEA
EC	<ul style="list-style-type: none"> - Prepares a Commission press release and forwards it to the notifying State for comments - Sends notification of impending press release to ECURIE Member States via ECURIE channels - Publishes the final press release after one hour of sending to the notifying State
All	<ul style="list-style-type: none"> - 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

Emergency Class: SITE AREA EMERGENCY

Description:	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'. 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 expectation .
Voluntary:	A State may send an advisory message to the IEC regarding a 'site area emergency'.
Recommendation:	The IAEA Secretariat strongly encourages States to inform the IEC of a 'site area emergency' in order that it can be ready to carry out its functions under the Convention on Early Notification of a Nuclear Accident (1986) – Article 4.

Emergency Class: SITE AREA EMERGENCY

Response actions

Initial advisory message

IAEA	<ul style="list-style-type: none"> - 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 States³⁴, 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	<ul style="list-style-type: none"> - Authenticates incoming initial notification from the notifying State - Promptly forwards the unedited information to ECURIE Member States and IAEA by CoDecS and Fax - May activate the Emergency team to prepare to handle related communications on a 24/7 basis - Contacts any member State who has not responded to the initial notification within one hour of sending - 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 malicious act
INTERPOL	- May be put on standby in case of actual or suspected malicious act
PAHO	- Alerts country office
WHO	- Alerts REMPAN network and its respective regional and country offices
WMO	- Activates, and retransmits ³⁵ initial advisory message received from the IAEA to all NMHSs
Other	- None
Further information from the reporting State	
IAEA	<ul style="list-style-type: none"> - Authenticates the message and verifies the content with the reporting State - Publishes further information on IAEA's emergency web site, including any attachments and/or links to reporting State's own web site - Uses fax for distribution of further information only if convenient or as a back up option
EC	- Promptly forwards the information to ECURIE Member States and IAEA by CoDecS or Fax
WHO	- Take additional steps as necessary
WMO	- Retransmits ³⁶ relevant information received from the IAEA to all NMHSs

³⁴ States within 1000 km from the NPP or 50 km from the research reactor that declared 'general emergency'.

³⁵ As a backup to the IAEA report of the notification and in order to speedily activate meteorological support.

Emergency Class: SITE AREA EMERGENCY	
Response actions	
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 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 counter false rumours
Other	- Inform IAEA 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 field response team in agreement with the requesting State <i>The provision of international assistance follows the IAEA Response Assistance Network (RANET) process</i>
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	
IAEA	- Publishes reporting State press releases or URL of public web site on 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
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

³⁶ As a backup to the IAEA report of the advisory message and in order to speedily activate meteorological support.

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; malicious acts 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 site area emergency.
Expectation:	There is no expectation .
Voluntary:	A State may send an advisory message to the IEC regarding a 'facility emergency'.
Recommendation:	The IAEA Secretariat encourages States to inform the IEC of a 'facility emergency' in order that it can be ready if a response is warranted (in particular in case of actual or suspected malicious acts).

Emergency Class: FACILITY EMERGENCY

Response actions	
Initial advisory message	
IAEA	<ul style="list-style-type: none"> - 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 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
EUROPOL	- May be put on standby in case of actual or suspected malicious act
INTERPOL	- May be put on standby in case of actual or suspected malicious act
Further information from the reporting State	
IAEA	<ul style="list-style-type: none"> - Authenticates the message and verifies the content with the reporting State - Publishes further information on IAEA's emergency web site, including any attachments and/or links to reporting State's own web site - Uses fax for distribution of further information only if convenient or as a back up option
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	<ul style="list-style-type: none"> - Compiles received information from the reporting State - Publishes summary on IAEA's emergency web site unless otherwise instructed by the reporting State - Sends summary by fax to all States and relevant international organizations (back up option)
IAEA	<ul style="list-style-type: none"> - 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 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 counter false rumours
Other	- Inform IAEA about any additional information they may be aware of
Request for advice or assistance	
IAEA	<ul style="list-style-type: none"> - 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 <p><i>The provision of international assistance follows the IAEA Response Assistance Network (RANET) process</i></p>
Other	<ul style="list-style-type: none"> - 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	
IAEA	<ul style="list-style-type: none"> - Publishes reporting State press releases or URL of public web site on IAEA's emergency web site - Establishes liaison with the official media focal points in reporting State and relevant international

Emergency Class: FACILITY EMERGENCY	
Response actions	
	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> - Prepares a Commission press release and forwards it to the notifying State for comments - Sends notification of impending press release to member States via ECURIE channels - Publishes the press release after one hour of sending it to the notifying State
All	<ul style="list-style-type: none"> - 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

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 malicious acts.
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 expectation .
Voluntary:	A State may send an advisory message to the IEC regarding an 'alert'.
Recommendation:	The IAEA Secretariat encourages States to inform the IEC of an 'alert' in order that it can be ready if the event triggers media and/or public interest.

Emergency Class: ALERT

Response actions

Initial advisory message

IAEA	<ul style="list-style-type: none"> - Authenticates initial notification and verifies the content with the reporting State - Offers good offices to 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 reporting State's web site, unless otherwise instructed by the reporting State
------	---

Further information from the reporting State

IAEA	<ul style="list-style-type: none"> - Authenticates the message and verifies the content with the reporting State - Publishes further information on 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 - Uses fax for distribution of further information only if convenient or as a back up option
------	---

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	<ul style="list-style-type: none"> - Compiles received information from the reporting State - May publishes summary on IAEA's emergency web site
------	--

IAEA	<ul style="list-style-type: none"> - 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 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 counter false rumours
------	---

Other	- Inform IAEA about any additional information they may be aware of
-------	---

Request for advice

IAEA	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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

IAEA	<ul style="list-style-type: none"> - May establishes liaison with the official media focal point in reporting State - May issues press release and posts on the IAEA's public web site detailing event and actions taken by and role of the IAEA
------	--

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; illicit trafficking of a dangerous source or nuclear material; malicious acts (explosion of so-called 'dirty bomb', sabotage or attack on facility) resulting in an actual or perceived radiological hazards (e.g. contamination of people, areas, water, food or consumer products, or exposure of people or public areas); 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 GS-R-2 requirements are expected to notify , provide relevant information and respond to requests for information if the 'radiological emergency' 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 regarding a 'radiological emergency'.
Recommendation:	The IAEA Secretariat encourages States to inform the IEC of a 'radiological emergency' in order that it can be ready if a response is warranted (in particular in case of actual or suspected malicious acts or high media and public interest). Time from classifying the emergency as transnational until notification is achieved: < 6 hours

3

Emergency Class: RADIOLOGICAL EMERGENCY

Response actions

Initial advisory message

IAEA	<ul style="list-style-type: none"> - Authenticates initial notification or advisory message and verifies the content with the reporting State - Offers good offices to the notifying/reporting State - May establish basic response mode - May establish liaison with the reporting State - Respecting any confidentiality constraints or instructions from the reporting State may publish advisory message on 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	<ul style="list-style-type: none"> - Where the criteria correspond to those for sending ECURIE Information Message: - Promptly forwards any incoming information to ECURIE Member States and IAEA by CoDecS and Fax - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements

Suspected or actual transnational emergency

IAEA	<ul style="list-style-type: none"> - Forthwith informs by fax affected or possibly affected States - Publishes notification on 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 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 IAEA's emergency web site
EC	<ul style="list-style-type: none"> - Where the criteria correspond to those for sending ECURIE Information Message: - Promptly forwards any incoming information to ECURIE Member States and IAEA by CoDecS and Fax - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
WHO	<ul style="list-style-type: none"> - Contacts with National IHR Focal Point in the affected State Party - Continues close liaison of HQ, regional and country offices involved - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested - Continues public health surveillance and offers technical assistance as appropriate - Considers dissemination of information as appropriate to States Parties and others, including on Event Information Site

Elevated radiation levels

IAEA	<ul style="list-style-type: none"> - Contacts relevant States to identify the origin - May request specialized services from WMO - May establish liaison with FAO and/or WMO
------	---

Emergency Class: RADIOLOGICAL EMERGENCY	
Response actions	
WMO Lead RSMCs	<ul style="list-style-type: none"> - Provide specialized products based on IAEA requested parameters - Distribute products to the IAEA, WMO and NMHSs in the relevant region
	<ul style="list-style-type: none"> - Where the criteria correspond to those for sending ECURIE Information Message: - Promptly forwards any incoming information to ECURIE Member States and IAEA by CoDecS and Fax - May request EURDEP Member States to put the environmental monitoring systems in Emergency mode - May activate RESPEC technical support arrangements
WHO	<ul style="list-style-type: none"> - Contacts with National IHR Focal Point in the affected State Party - Continues close liaison of HQ, regional and country offices involved - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested - Continues public health surveillance and offers technical assistance as appropriate - Considers dissemination of information as appropriate to States Parties and others, including on Event Information Site
Dangerous source	
IAEA	<ul style="list-style-type: none"> - Based on available information confirms that the source can be (cannot be) categorized as ‘dangerous’ <p><i>If a dangerous source is found or detected (including one or several being used for malicious purposes), information about the exact location of the source(s) is withheld until the source(s) has (have) been made safe and secure</i></p>
WHO	<ul style="list-style-type: none"> - Informs regional and country offices and may assist in coordination with national health authorities of the reporting State - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested - Continues public health surveillance
Space object re-entry	
IAEA	<ul style="list-style-type: none"> - Establishes liaison with OOSA and other international organizations as appropriate
OOSA	<ul style="list-style-type: none"> - Establishes liaison with the launching State & IAEA 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. - Ensure most accurate trajectory and impact predictions (TIP) are provided to the IAEA for emergency response. - Inform 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).
WHO	<ul style="list-style-type: none"> - Informs regional and country offices and may assist in coordination with national health authorities of the reporting State - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested
Release to the atmosphere	
IAEA	<ul style="list-style-type: none"> - Informs WMO (RTH Offenbach, all RSMCs, WMO Secretariat) - Requests specialized atmospheric transport and dispersion prediction products from the WMO lead RSMCs
WMO Lead RSMC	<ul style="list-style-type: none"> - Generate basic products based on IAEA request parameters, or with default scenario parameters if none are provided - Distribute products to the IAEA, WMO and NMHSs in the relevant region
WHO	<ul style="list-style-type: none"> - Informs regional and country offices and may assist in coordination with national health authorities of the reporting State - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested
Contamination	
IAEA	<ul style="list-style-type: none"> - May inform and establish liaison with WHO - Inform and establish liaison with PAHO (if in the Americas) - May inform and establish liaison with FAO <p><i>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</i></p>
OOSA	<ul style="list-style-type: none"> - 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 is aware of any other reports of recovered space objects to ensure containment of

	contamination
FAO	<ul style="list-style-type: none"> - Will convene meetings of ECN and prepare to support AGE as necessary - May establish liaison with the reporting state through FAO Representative - 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	<ul style="list-style-type: none"> - Informs regional and country offices and may assist in coordination with national health authorities of the reporting State - Ensures timely receipt of adequate information for public health risk assessment - Continues public health surveillance and offers technical assistance to the affected State as appropriate
PAHO	<ul style="list-style-type: none"> - Offers good technical support to the affected State - May participate in the basic response mode - May establish liaison with the reporting State
Overexposure	
IAEA	<ul style="list-style-type: none"> - Establishes liaison with WHO (and PAHO if in the Americas) - Takes steps to protect patient confidentiality <p><i>If the event involves serious overexposures or requires medical treatment</i></p>
WHO	<ul style="list-style-type: none"> - Informs regional and country offices and may assist in coordination with national health authorities of the reporting State - Ensures timely receipt of adequate information for public health risk assessment - Continues public health surveillance and offers technical assistance to the affected State as appropriate
PAHO	<ul style="list-style-type: none"> - Offers good technical support to the affected State - May participate in the basic response mode - May establish liaison with the reporting State
Complex emergency or disaster	
IAEA	<ul style="list-style-type: none"> - May establish liaison with OCHA <p><i>If the event is a complex emergency or disaster with a radiological component</i></p>
OCHA	<ul style="list-style-type: none"> - Coordinate international humanitarian assistance
WHO	<ul style="list-style-type: none"> - Ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested - Continues public health surveillance - Offers good technical support to the affected State - Considers dissemination of information as appropriate to States Parties and others, including on Event Information Site
Malicious/criminal act	
IAEA	<ul style="list-style-type: none"> - May establish liaison with EUROPOL - May establish liaison with INTERPOL - May establish liaison with the WCO and/or other relevant international organizations as appropriate
EUROPOL	<ul style="list-style-type: none"> - Establishes liaison with affected EU Member State(s) (for incidents in the EU) - Establishes liaison with the EC (for incidents in the EU) - May establish liaison with the IAEA - May establish liaison with INTERPOL - May establish liaison with the WCO
INTERPOL	<ul style="list-style-type: none"> - May contact or be contacted by affected Member State and work with their national police - May assist in investigating any international crimes or threats - May establish liaison with IAEA and EUROPOL
WHO	<ul style="list-style-type: none"> - Depending on the scale of the event, WHO ensures timely receipt of adequate information for public health risk assessment and assessment of assistance when requested - Continues public health surveillance and offers technical assistance to the affected State - Considers dissemination of information as appropriate to States Parties and others, including on Event Information Site
Further information from the reporting State	
IAEA	<ul style="list-style-type: none"> - Authenticates the message and verifies the content with the reporting State - Publishes further information on 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 back up option
Space object re-entry	
IAEA	<ul style="list-style-type: none"> - Forthwith informs by fax States that may be physically affected and relevant international organizations

	- Offers the IAEA's good offices to potentially affected States
OOSA	- Ensure any information relating to the incident received under other international instruments on space objects and their recovery is provided to the IAEA
Request for information	
IAEA	- May request reporting State and/or relevant international organizations to provide more information and/or link to appropriate emergency web site
OOSA	- Request the IAEA provide information for provision to the SG
Other	- May submit requests for information to the IAEA
Request for information (continued)	
IAEA	- Compiles received information from the reporting State - Publishes summary on 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 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 counter false rumours
FAO	- To provide support in agriculture countermeasures and safety of food supplies
Other	- Inform IAEA 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 field response 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 <i>The provision of international assistance follows the IAEA Response Assistance Network (RANET) process</i>
OOSA	- Provide advice and/or assistance to the IAEA, as required
Other	- Informs the IAEA 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 ³⁷
Public information	
IAEA	- Publishes 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 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
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
EC	- May prepare a Commission press release and forward to notifying State for comment - In this case sends a notification of an impending press release to EU Member States via ECURIE channels - Publishes the press release after one hour of sending it to the notifying Competent Authority
Other	- Submit copies of any press releases to the IAEA or send/submit URL of public web site

³⁷ 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: RADIATION THREAT

Description:	Communicated threat to commit acts potentially resulting in an actual or perceived radiation emergency. This includes: a so-called 'dirty bomb' threat, or threat of contamination of places, water, food or consumer products, threat of exposure of people, threat of sabotage or attack on facilities.
Obligation:	There is no obligation on States to notify the IAEA or other States of 'radiation threats'.
Expectation:	There is no expectation .
Voluntary:	A State may send an advisory message to the IEC regarding 'radiation threat'.
Recommendation:	The IAEA Secretariat encourages States to inform the IEC of a 'radiation threat' in order that it can be ready if a response is warranted (if a threat becomes an actual event).

Emergency Class: RADIATION THREAT

Response actions

Initial advisory message

IAEA	<ul style="list-style-type: none"> - Authenticates advisory message and verifies the content with the reporting State - Offers good offices to the reporting State - May establish basic response mode - May establish liaison with the reporting State - May establish liaison with EUROPOL, INTERPOL and/or other relevant international organizations as appropriate respecting instructions from the reporting State - May inform relevant States and relevant international organizations as appropriate respecting any confidentiality constraints and instructions from the reporting State
EUROPOL	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - May be put on standby - Could disseminate information about the threat via its notice system (orange for materials and devices, red for individuals) - Coordinate any preliminary international investigations
EC	<ul style="list-style-type: none"> - Authenticates incoming initial notification from the notifying State - Promptly forwards the unedited information to ECURIE Member States and IAEA by CoDecS and Fax - May activate an Emergency team to prepare to handle related communications on a 24/7 basis - May establish liaison with the EUROPOL

Further information from the reporting State

IAEA	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - May activate the Europol First Response Network
INTERPOL	<ul style="list-style-type: none"> - Could disseminate information about the threat via its notice system (orange for materials and devices, red for individuals) - Coordinate any preliminary international investigations
EC	<ul style="list-style-type: none"> - Promptly forwards the unedited information to ECURIE member States and IAEA by CoDecS and Fax

Request for information

IAEA	<ul style="list-style-type: none"> - May request reporting State to provide more information
Other	<ul style="list-style-type: none"> - May submit requests for information to the IAEA
IAEA	<ul style="list-style-type: none"> - Compiles received information from the reporting State - May inform requesting international organizations respecting any confidentiality constraints and instructions from the reporting State
IAEA	<ul style="list-style-type: none"> - Authenticate and verifies requests for information - Compiles requests for information and forwards them to the reporting States - Collates replies and informs requesting contact points respecting any confidentiality constraints and instructions from the reporting State
Other	<ul style="list-style-type: none"> - Inform IAEA about any additional information they may be aware of

Emergency Class: RADIATION THREAT	
Response actions	
Request for advice	
IAEA	<ul style="list-style-type: none"> - Receives requests for advice or assistance and informs relevant international organizations - Evaluates the situation and, in co-ordination with the relevant international organizations, provides advice to requesting State
Public information	
IAEA	<ul style="list-style-type: none"> - May publish 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 reporting State - In coordination with the 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	<ul style="list-style-type: none"> - May prepare a Commission press release and forward it to the notifying State for comment - In this case sends a notification of impending press release to EU Member States via ECURIE channels - Publishes the press release after one hour of sending to notifying Competent Authority

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 programmes.

The Inter-Agency Committee on Radiological and Nuclear Emergencies is the co-ordination mechanism between participating international organizations to facilitate coordinated and consistent arrangements and capabilities for preparedness and response to radiation incidents and emergencies are developed and maintained. The Committee's activities do not affect the co-operation arrangements defined in the relationship agreements between organizations, and their day-to-day implementation.

As per the IACRNE's Terms of Reference, any international intergovernmental organization that has a significant role with respect to preparedness or response for 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.

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 international 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 response³⁸ support these

³⁸ In particular, the GS-R-2].

responsibilities. Specific capabilities to meet the responsibilities 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 Plan.

4.3. Inter-agency procedures and arrangements

Detailed inter-agency procedures, communication channels and response arrangements, including those for providing media information, documented separately from this Plan, are formalized by a simple exchange of letters between the parties, and may be independently updated from time to time³⁹. They are based on this Plan or harmonized with it, are maintained by the participating organizations, are controlled and forwarded to the IACRNE Secretariat. These procedures describe the standard response actions to be taken by each participating organization during an emergency. The implementation of and change to these procedures and associated checklists or proformas are done in an orderly, co-ordinated and agreed manner.

The IACRNE Secretariat maintains a system for sharing among participating organizations lists of Member States, parties to the Conventions, and contact point information.

4

4.4. Financing

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

4.5. Feedback from actual responses

Following response to an actual emergency and if appropriate, the IACRNE Secretariat compiles a short 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 Member States with planning and training activities designed to improve preparedness. 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 Secretariat prepares and conducts its own table-top exercises from time to time aimed at reviewing coordination mechanisms defined in this 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 international organizations to avoid duplication and make the most efficient use of

³⁹ A list of current inter-agency procedures is given in Appendix A.

resources. To improve coordination, the IACRNE prepares, as far as feasible, and disseminates a multi-year calendar of planned or expected exercises from the participating organizations.

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 group⁴⁰ 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 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 ENATOM. 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 (severe radiation accident or malicious radiological act of international concern) to test the response of States and international organizations in a severe radiation emergency, 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 countries offering to host the exercise and with the Committee in order to decide which State will host the exercise. The host country must meet the following conditions: (1) the host country must be an IAEA Member State and apply the current

⁴⁰ IACRNE Working Group on Coordinated International Exercises

ENATOM arrangements; (2) the host country must simulate an emergency involving a significant release of radioactive material into the environment requiring off-site protective actions and having transnational impact or a radiation emergency triggered by a malicious act and involving significant radiological consequences requiring protective actions and possibly 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 country 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 country 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 country takes also into account available resources and the expressed objectives of international organizations intending to participate. When choosing the host country priority is given to countries 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, and involve also representatives of relevant competent authorities.

4

The IACRNE Working Group prepares the *Exercise Manual*⁴¹ and distributes it to designated exercise controllers. Evaluation of the international part of the exercise aims at identifying deficiencies in this Plan and inter-agency arrangements. The Committee initiates appropriate follow-up actions.

Participating organizations (international organizations cosponsoring the Joint Plan) 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 Plan and inter-agency procedures 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 Plan review, the IACRNE seeks input from all participating organizations, and also from States Parties. The IACRNE may identify radiation emergency management areas that could be improved and suggest corrective actions.

4.8. Maintenance of the Joint Plan

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

⁴¹ Comprising of a Guide for Controllers, a Guide for Evaluators, a Guide for Players and an Evaluator’s Report template.

This Plan and the attendant inter-agency procedures 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 ongoing 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.

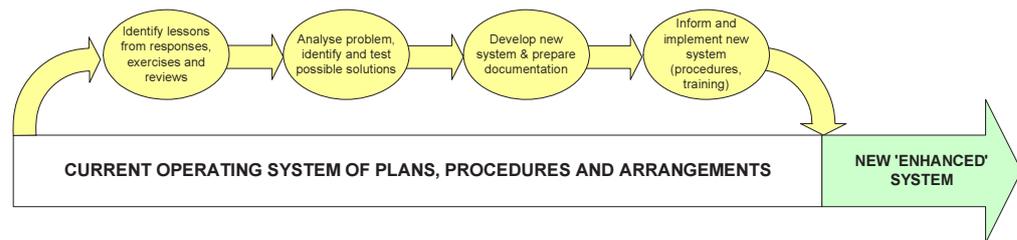


Figure 4: Concept of process for managing major changes.

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

4.9. Co-operation in developing national capabilities

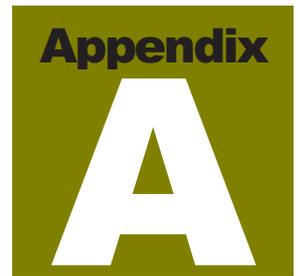
Several international organizations have legal and other statutory obligations to provide technical co-operation in the development of national and regional capabilities. Such technical co-operation may take the form of equipment provision, expert missions, reviews and services, training courses and workshops, fellowships and diplomatic initiatives. In order to optimize the resources available for such initiatives, the participating organizations of the Committee, 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 Plan.

Distribution

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

By	To
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, Subregional and National Offices
IAEA	Contact points and 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
	Permanent Missions of Member States to the IAEA
	Secretariats of CTBTO, EC, EUROPOL, FAO, ICAO, ILO, IMO, INTERPOL, NATO, OAS, OCHA, OECD/NEA, OOSA, PAHO, UNECE, UNEP, UNESCO, UNICEF, UNSCEAR, WCO, WHO, WMO
	UN Resident Representative (UNDP) in each State
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; other relevant NEA committees
OCHA	Relevant OCHA staff
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 of the UN General Assembly and international legal agreements define specific and primary responsibilities for aspects of planning for and response to nuclear or radiological emergencies: 13, 14, 16, 17.

The following resolution of the UN General Assembly defines specific and primary responsibilities for planning for and response to humanitarian emergencies in general: 24.

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: 29.

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 (Chicago, 1944).
- 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 July 1995).

Relevant conventions, treaties and international legal instruments

13. Convention on Early Notification of a Nuclear Accident (1986)⁴².
14. Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1986)⁴³.
15. International Health Regulations (2005).
16. Treaty on Principles covering the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (1967).
17. Convention on Registration of Objects launched into Outer Space (1975).
18. 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).
19. Convention on International Civil Aviation Annex 4 – Aeronautical Charts, Appendix 2, Item 72.
20. Convention on International Civil Aviation Annex 11 – Air Traffic Services, paragraphs 4.2.1.c), 6.2.2.2.1f) and 7.6.
21. Convention on International Civil Aviation Annex 15 – Aeronautical Information Services, paragraph 5.1.1.1v), Appendix 1, ENR 5.3.2.
22. International Convention for the Safety of Life at Sea (SOLAS), 1974.
23. Protocol on Preparedness, Response and Co-operation to Pollution incidents by Hazardous and Noxious Substances, 2000.

⁴² INFCIRC 335: Party to the Convention on Early Notification of a Nuclear Accident, entered into force 27 October 1986 (WMO, FAO, WHO).

⁴³ INFCIRC 336: Party to the Convention on Assistance in the Case of a Nuclear Accident, entered into force 26 February 1987 (WMO, FAO, WHO).

United Nations General Assembly Resolutions

24. General Assembly Resolution No. 46/182, Strengthening of the co-ordination of humanitarian emergency assistance of the United Nations (1992).
25. General Assembly Resolution 47/68, The Principles Relevant to the Use of Nuclear Power Sources in Outer Space adopted on 14 December 1992.
26. General Assembly Resolution No. 2997 – Institutional and financial arrangements for international environmental cooperation, 1972.
27. General Assembly resolution No. 913(X) – Effects of atomic radiation, adopted 3 December 1955.
28. General Assembly resolution No. 60/98 - Effects of atomic radiation, adopted 8 December 2005.

Inter-Agency agreements

29. Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.
30. Relationship Agreement: Agreement between the International Atomic Energy Agency and the World Health Organization, entered into force May 28, 1959. INFCIRC 20, Part III.
31. Agreement between the Directors General of the IAEA and WHO to improve co-ordination in the planning and implementation of programmes, 1988.
32. Agreement between the International Atomic Energy Agency and the World Meteorological Organization, entered into force 12 August 1959.
33. Administrative Agreement on Co-operation between the European Commission and the European Police Office (EUROPOL), February 2003.
34. Operational Agreement on Co-operation between the European Police Office (EUROPOL) and the International Criminal Police Organisation (INTERPOL), November 2001.
35. 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.

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

Other agreements

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

Working arrangements between agencies

39. Working Arrangements between the International Civil Aviation Organization and the World Meteorological Organization (ICAO Doc 7475).
40. Meteorological assessment support in a nuclear emergency – co-operative arrangements between WMO and IAEA, March 2003.
41. 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.
42. Concept of Operations for response to a nuclear or radiological emergency – cooperative arrangements between WHO and IAEA Secretariats, February 2003.
43. Memorandum of Understanding between the European Commission and the EURDEP Member States.

A

Regulations, directives, decisions and other resolutions

44. 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).
45. 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).
46. 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).

47. 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.
48. 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.
49. UNEP GC Decision 22/8 of 7 February 2003 – Further improvement of environmental emergency prevention, preparedness, assessment, response and mitigation.
50. UNEP GC Decision 21/17 of 9 February 2001 – Further improvement of environmental emergency prevention, preparedness, assessment, response and mitigation.
51. UNEP GC Decision 20/8 of 5 February 1999 – Further improvement of the international response to environmental emergencies.
52. UNEP GC Decision 19/9 of 7 February 1997 – Improvement of the international response to environmental emergencies.
53. UNEP GC Decision 18/19 of February 1995 – Improvement of the international response to environmental emergencies.
54. UNEP GC Decision 16/37 of May 1991 – Early warning and forecasting of environmental emergencies.
55. UNEP GC Decision 17/5 of May 1993 – Application of environmental norms by military establishments.
56. UNEP GC Decision 15/39 of May 1989 – Industrial accidents.
57. 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.
58. WHO World Health Assembly Resolution WHA58.3 of 23 May 2005: Revision of the International Health Regulations.
59. WHO World Health Assembly Resolution WHA59.22 of 27 May 2006: Emergency preparedness and response.

Standards

60. FAO/IAEA/ILO/OECD(NEA)/PAHO/WHO International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, Safety Series No. 115, IAEA, Vienna (1996).
61. FAO/IAEA/ILO/OECD(NEA)/OCHA/PAHO/WHO, Preparedness and Response for a Nuclear or Radiological Emergency, GS-R-2, IAEA, Vienna (2002).
62. International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code).
63. Code of Safety for Nuclear Merchant Ships, 1982.
64. 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).
65. IAEA, OECD/NEA, INES The International Nuclear and Radiological Event Scale User's Manual 2008 Edition, IAEA (Vienna 2009).



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.

EUROPEAN COMMISSION (EC)

Address	Official address	Office responsible for nuclear emergency response
	European Commission 200 rue de la Loi/ Wetstraat 200 B-1049 Brussels BELGIUM http://europa.eu.int/	European Commission DG Energy and Transport H.4 Radiation Protection Euroforum Building L-2920 LUXEMBOURG http://ec.europa.eu/energy/nuclear/radiation_protection/radiation_protection_en.htm
Responsibilities and authorities	The European Commission, which acts as the Secretariat for the European Union, has obligations to the EU Member States, Croatia and Switzerland in the event of a nuclear accident or radiological emergency, namely:	
	<ul style="list-style-type: none"> • to forward an alert message and further information to all Member States of the European Union⁴⁴, and to Croatia and Switzerland⁴⁵; • 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 States⁴⁶. 	

⁴⁴ 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).

⁴⁵ Special Agreements with Switzerland 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 and FYROM).

The European Commission has responsibility to maintain its preparedness to forward the alert message and subsequent additional information to ECURIE Member States⁴⁷ 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 Energy and Transport Unit H.4, Radiation Protection. This office maintains a 24 hour standby duty for nuclear and radiological emergencies within the EU Member States, Croatia and Switzerland. Unit H.4 operates the European Community Urgent Radiological Information Exchange (ECURIE) system, which provides the technical communication platform for forwarding alert messages and further information to all EU Member States, Croatia and Switzerland.

For radiological emergency situations the European Commission has set up arrangements for automatic exchange of environmental radiation measurement data in emergency mode through the EURDEP system⁴⁸. Additionally a web-based system ENSEMBLE⁴⁹ 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 for membership 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 however not limited to the 27 EU Member States and currently includes also Switzerland, Croatia, Russia, Norway, Iceland 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 provides a platform for compiling long-range atmospheric dispersion modelling data from participating national organizations in charge of dispersion modelling.

⁴⁶ 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.

⁴⁷ European Union Member States, Croatia and Switzerland.

⁴⁸ European Radiological Data Exchange Platform(<http://eurdep.jrc.ec.europa.eu/>)

⁴⁹ <http://ensemble.ci.jrc.it/>

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 promotes training courses for off-site emergency planning and response for experts in the Member States and Candidate Countries. It also funds a project to encourage EU Member States to register their assets in the RANET system.

EUROPEAN POLICE OFFICE (EUROPOL)

Address

Official address

Raamweg 47
P. O. Box 90850
2509 LW The Hague
The Netherlands
<http://www.europol.europa.eu>

Unit responsible for nuclear and radiation issues

Serious Crime Department – SC 5
Tel: +31 (0)70 353 1163
Fax: +31 (0)70 318 0843
Email: SC52@europol.europa.eu

Responsibilities and authorities

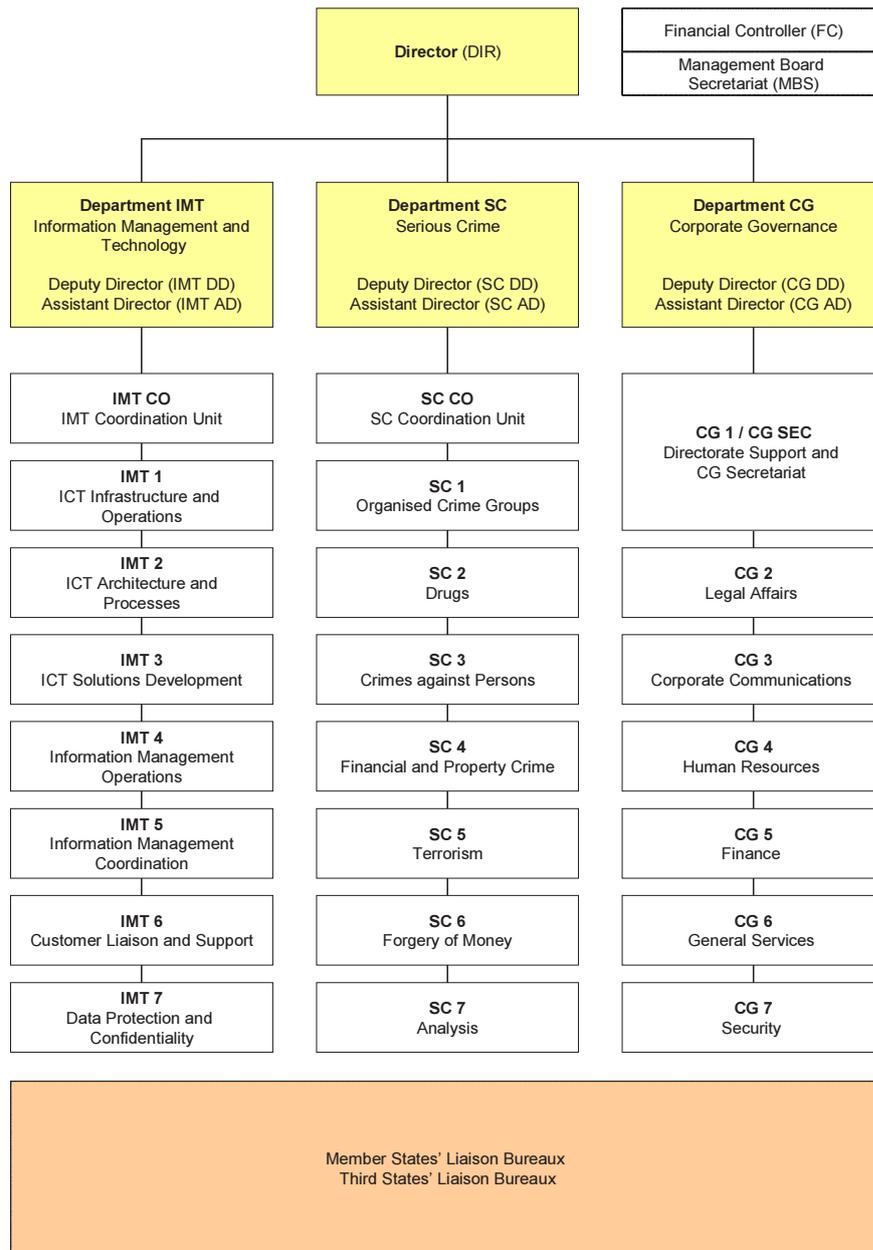
Europol is the European Law Enforcement Organisation. It is an intelligence-led organisation and the coordinated response to international organised crime and terrorism. Our aim is to reduce the harm to individuals, communities, institutions, and European society caused by criminal acts.

Europol takes a proactive approach to undermining entire networks, not just pursuing low level players. We are approximately 625 staff in the Europol Headquarters in The Hague in the Netherlands, and we work closely with the law enforcement agencies of the 27 EU Member States as well as with other cooperation partners such as Australia, Canada the USA and Norway.

Europol officers have no executive powers so we do not carry out arrests or wire tapping. We mainly assist with analysis and coordination and sometimes Europol officers are present on the spot during a coordinated police operation. In these cases it is to support and to assist with expertise.

B

Organization



B

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.

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 Serious Crimes Department
- Standard Operational Procedure for the activation of a Terrorism Crisis Centre
- Activation of the First Response Network at EU level.

Europol's Counter Terrorism Unit (SC5) 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, such as INTERPOL, represented at Europol HQ. In addition, should the level of threat warrants more direct support, Europol could activate its Terrorism Crisis Centre or its First Response Network (FRN).

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.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)



Address

Headquarters

FAO/IAEA Focal Point

Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla
I-00153 Rome, ITALY
<http://www.fao.org/>

Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
International Atomic Energy Agency
P.O. Box 100
Wagramer Strasse 5
A-1400 Vienna, AUSTRIA
<http://www-naweb.iaea.org/nafa/index.html>

Responsibilities and authorities

The Food and Agriculture Organization of the United Nations has statutory functions⁵⁰ 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

⁵⁰ Constitution of the Food and Agriculture Organization of the United Nations.

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, 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”⁵¹; 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”⁵². 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;

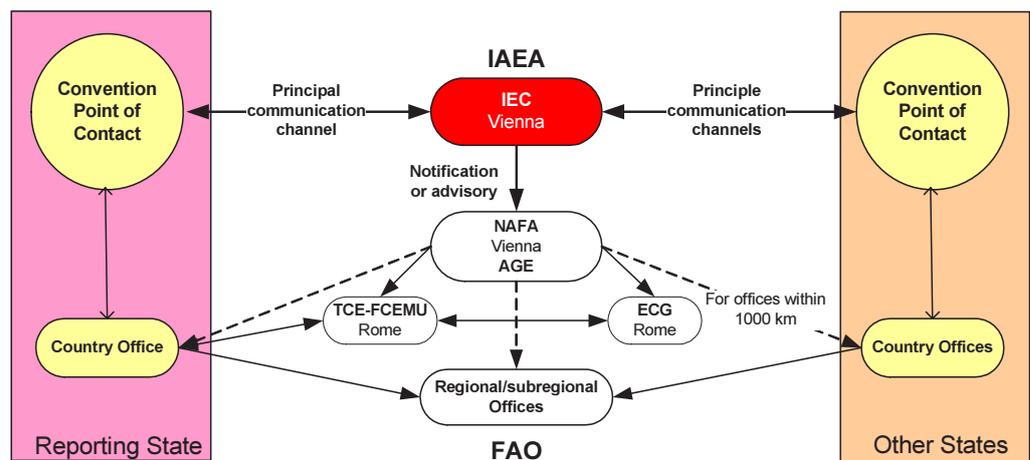
⁵¹ Convention on Early Notification of a Nuclear Accident acceded 19 Oct. 1990.

⁵² Convention on Assistance in the Case of a Nuclear or Radiological Emergency, acceded 19 Oct. 1990.

- 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;
- 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:



B

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 manages its emergency response through the Emergency Co-ordination Group (ECG) to whom the Nuclear Emergencies Crisis Network of Technical Experts (ECN) reports. Under the co-operative 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 FAO/IAEA Joint Division (NAFA/AGE) is the FAO focal point and is expected to assign a liaison officer to man the FAO desk in the IAEA Incident and Emergency Centre. Within the framework for Food Chain Crisis, the Food Chain Crisis Emergencies Management Unit (FCCEMU) of the Emergency Operations and Rehabilitation Division (TCE) is the FAO operational focal point responsible for responding to nuclear emergencies related to food and agriculture. In this regard, to deal with specific threats from food, EMPRES-Food Safety supports member countries to prepare and respond to food safety emergencies. Technical input will be drawn from relevant FAO units. The essential aspects may be accessed on the Joint FAO/IAEA Division web site.⁵³ FAO 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 and National 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

Headquarters

International Atomic Energy Agency
Vienna International Centre
P.O. Box 100
Wagramer Strasse 5
A-1400 Vienna, AUSTRIA
<http://www.iaea.org>

Incident and Emergency Centre

Routine correspondence

Tel.: +43 1 2600 22028
Fax: + 43 1 26007 29309
Email: iec3@iaea.org

Communication in emergency

<http://www-emergency.iaea.org/login.asp?>
See the address book on IAEA's emergency web site for emergency communication details.

**Responsibilities
and authorities**

The International Atomic Energy Agency 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:

⁵³ <http://www-naweb.iaea.org/nafa/fcp/topic-nuclear-emergencies.html>

- 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 verification⁵⁴ from the IAEA.

Moreover, under the Early Notification and Assistance Conventions the IAEA is also 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.

In addition, the IAEA will:

- verify rumours of nuclear or radiological emergencies and provide authoritative information to requesting Parties, without undue delay;
- ensure that Member States' representatives are appropriately briefed on any developing situation;

⁵⁴ The process of confirming that the information in a message is properly understood and accurate.

- ensure 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;
- interact 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;
- review 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.

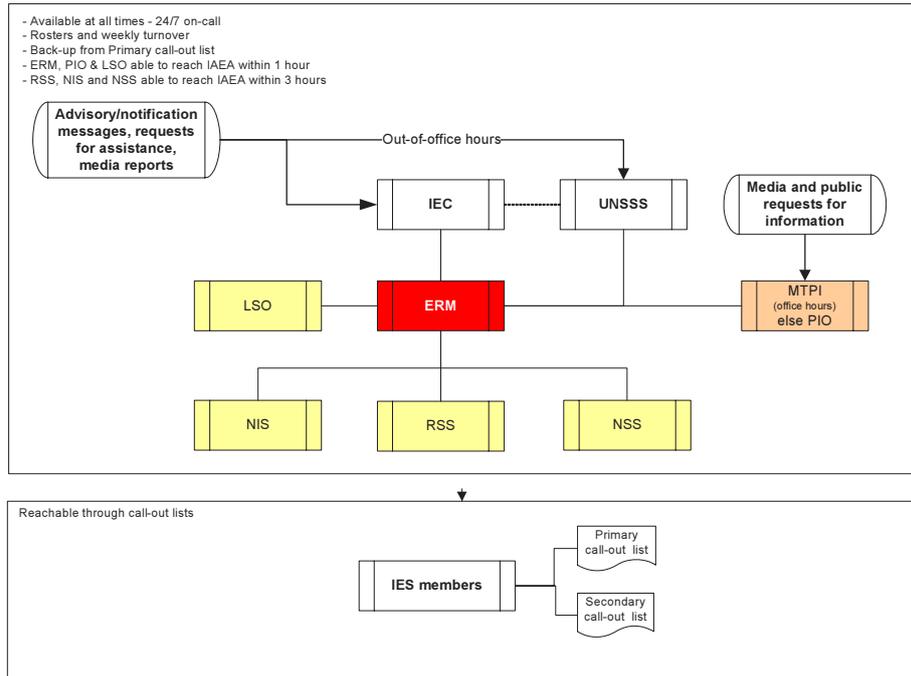
B

Organization

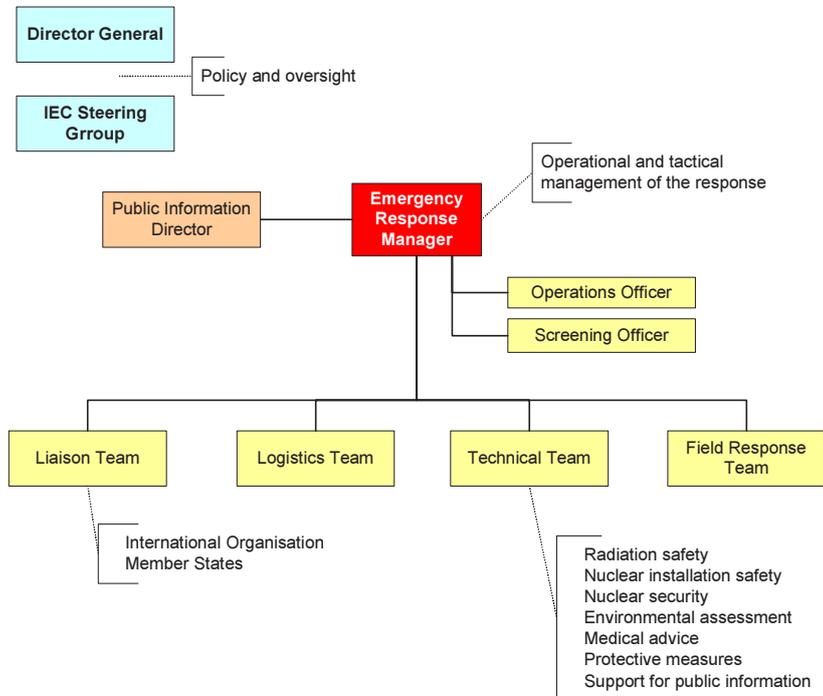
The IAEA's actions that need to be implemented on a short-term basis are organized through: (1) an **on-call system**⁵⁵ and (2) a **duty system**.

The following two figures show the IAEA's on-call system and response structure when IAEA's Incident and Emergency System is fully activated.

⁵⁵ A 24/7 alert and coordination structure for radiation events related requests necessitating short-term action



ERM	Emergency Response Manager	PIO	Public Information Officer
LSO	Logistics Support Officer	IEC	Incident and Emergency Centre
NIS	Nuclear Installations Specialist	MTPI	Division of Public Information
NSS	Nuclear Security Specialist	UNSSS	United Nations Security and Safety Section
RSS	Radiation Safety Specialist		



With regard to the interaction with other relevant international organizations during activation, several positions are relevant⁵⁶:

An **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.

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

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

The **IEC Steering Group oversees the emergency response operations recommending actions in particular those of strategic nature.**

Overall responsibility for preparedness of the IAEA to respond to nuclear or radiological emergencies, for developing 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 organizational 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:

- (1) facilitates the management of a rapid coordinated response across the Secretariat to situations that may give rise to radiological consequences irrespective of their cause;
- (2) 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.

In support of its statutory obligations the IAEA:

- issues manuals, technical reports and documents on emergency preparedness and response;
- issues associated training material and computer tools which form the basis of technical co-operation support;
- 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

⁵⁶ See also ENATOM: Emergency Notification and Assistance Technical Operations Manual.

guidance, practical arrangements, and consultation with Member States and States Party to the Conventions.

The IAEA 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. The IAEA provides also the Secretariat for the IACRNE.

The IAEA has a Memorandum of Understanding with OCHA⁵⁷, which 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 cooperate; 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 coordinator of all aspects of disaster relief assistance, and that the IAEA has operational responsibilities for coordinating relevant technical and scientific assistance following a radiation accident. 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 accident, 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.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

Address

Headquarters

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

B

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

⁵⁷ Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

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 centres operated by them by virtue of provisions in Annex 3 — *Meteorological Service for International Air Navigation* to the Convention on International Civil Aviation:

- for world area forecast centres (WAFCs) 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 the information received in significant weather forecasts;
- for meteorological watch offices (MWOs) to supply information received concerning the accidental release of radioactive materials into the atmosphere, in the area for which it maintains watch or adjacent areas, to its associated area control centre (ACC) and flight information centre (FIC), as agreed between the meteorological and air traffic services (ATSs) 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 about to depart for the affected flight information regions (FIRs).

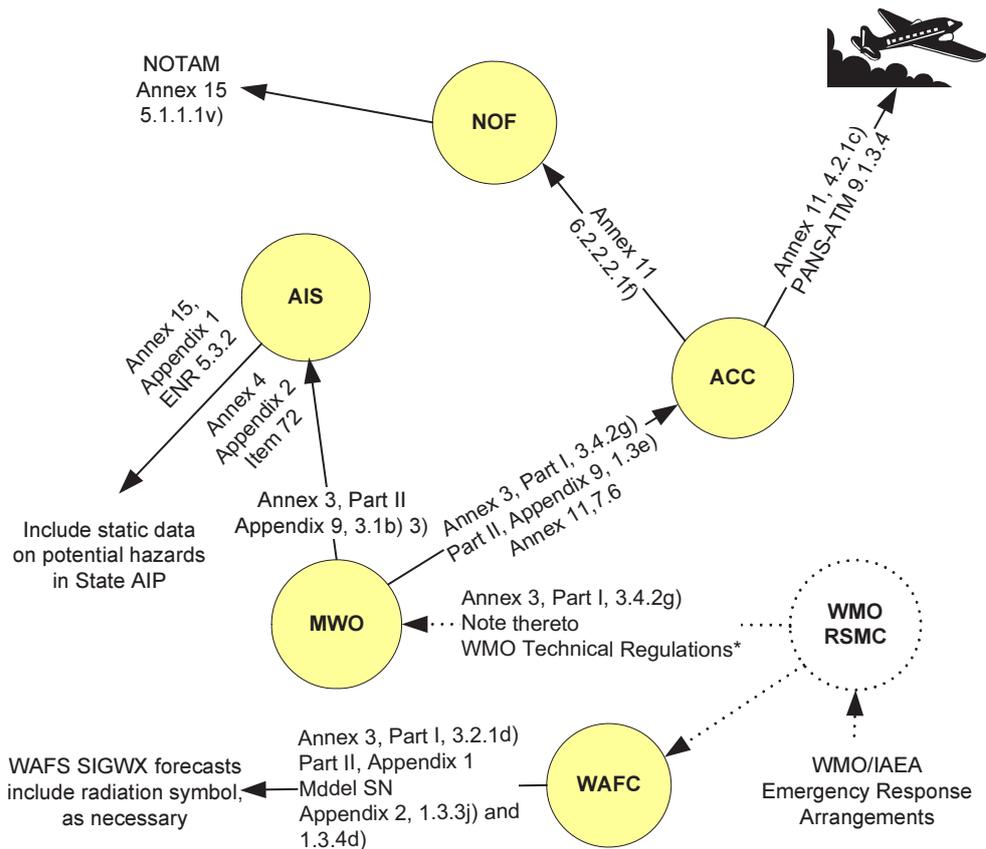
Organization

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 distribution to the national meteorological centres concerned. Subsequently, this information and forecast charts for the trajectory and definition of radioactive material is promptly disseminated from the WMO RSMCs to the aeronautical meteorological centres for onward communication to the ACCs/FICs. A symbol indicating “radioactive materials in the atmosphere” should be included in the WAFS significant weather (SIGWX) charts.

There are no Secretariat personnel assigned for real-time emergencies. The necessary response will be undertaken by the relevant meteorological centres in ICAO Contracting States.

The governing ICAO regulatory provisions are displayed in the figure below.





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

Capabilities and arrangements

The procedures for initial notification of aeronautical meteorological centres concerned that an accident has occurred are being developed between IAEA and ICAO, in co-ordination with the WMO.

The ACC will notify the associated international NOTAM Office (NOF) in order to issue the corresponding notice to airmen (NOTAM) related to the hazard essential to personnel concerned with flight operations. The inclusion of static data on potential hazards is included in contracting States' air information publications (AIPs).



INTERNATIONAL CRIMINAL POLICE ORGANIZATION (INTERPOL)

Address:

Headquarters

INTERPOL General Secretariat
200, Quai Charles de Gaulle,
69006 Lyon
FRANCE
<http://www.interpol.int>

Command and Coordination Center

IP LYON GS
Tel: +33 4 72 44 76 76.
Fax: +33 4 72 44 71 63
os-ccc@interpol.int

**Responsibilities
and Authorities**

INTERPOL is the world's largest international police organization, with 188 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.

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 188 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.

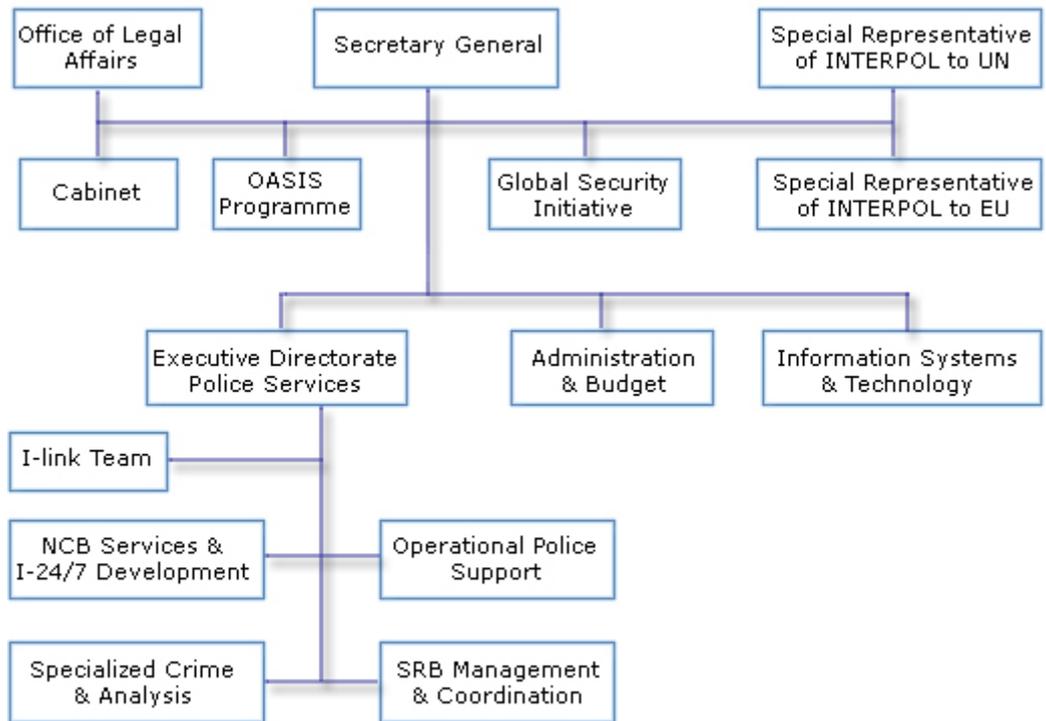
The Criminal Analysis Unit contributes to investigations by assisting officers working at the General Secretariat and in member countries with research and analysis on crime trends. The unit also provides training courses in criminal analysis techniques for member countries. This unit also maintains the Project Geiger analytical database, which can provide strategic analysis on nuclear trafficking and terrorism, and can be used for nominal searches for individuals involved in nuclear crimes.

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.

INTERPOL has general and specific programmes that contribute to the prevention of and preparedness for nuclear or radiological emergencies. The existing system of communications and investigations in co-ordination with INTERPOL member country's National Central Bureau's (NCBs) is intended to assist in the search and arrest of international criminals. These criminals include terrorists, traffickers in radioactive or nuclear material, and others who might be criminally involved in nuclear or radiological events.

Organization



Capabilities and arrangements

INTERPOL maintains a range of capabilities that could be called upon and engaged to respond to a radiological or nuclear incident.

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

B

- 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 Orange Notices to member countries and selected international organizations with information about possible thefts, trafficking, or missing radioactive or nuclear materials.
- 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

Headquarters

Marine Environment Division
International Maritime Organization
4 Albert Embankment
London SE1 7SR
UNITED KINGDOM

Tel: + 44 20 7735 7611

Fax: + 44 20 7587 3210

Email: info@imo.org

Web: <http://www.imo.org>

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 1990⁵⁸ and its HNS Protocol⁵⁹. 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.

⁵⁸ International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

⁵⁹ 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 Protocol⁶⁰, 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:

- 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.

B

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.

⁶⁰ 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

Headquarters

OECD Nuclear Energy Agency
Le Seine St-Germain
12, boulevard des Îles
92130 Issy-les-Moulineaux
France
www.nea.fr

Responsibilities and authorities

B

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. 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. This committee is primarily made up of senior officials from national atomic energy authorities and associated ministries. 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, recovery) within member states and to share its knowledge and experience widely. Within this framework, the NEA offers:

- to provide 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 international notification and assistance conventions;
- to address 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
- to develop follow-up strategies, through workshops and expert group meetings, to address identified issues and to formulate new approaches for international testing;
- to participate, 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;
- to participate in the overall assessment and analysis of lessons identified from such exercises.



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 will:

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

- issue 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 “*International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources*” 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 events at nuclear installations. 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 1960⁶¹ (*Paris Convention*),
- Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960⁶¹ (*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

Pan American Health Organization (PAHO)

Address

Headquarters

Pan American Health Organization
525 23rd Street, NW
Washington, DC 20037
USA

www.paho.org

Emergency Response

Emergency Operations Center

Tel: +1 (202) 974-3399
Fax: +1 (202) 974-3333
E-mail: eoc@paho.org

Radiological Health Program

Tel: +1 (202) 974-3605
E-mail: RadNucDC@paho.org

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.

⁶¹ 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.

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:

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.”

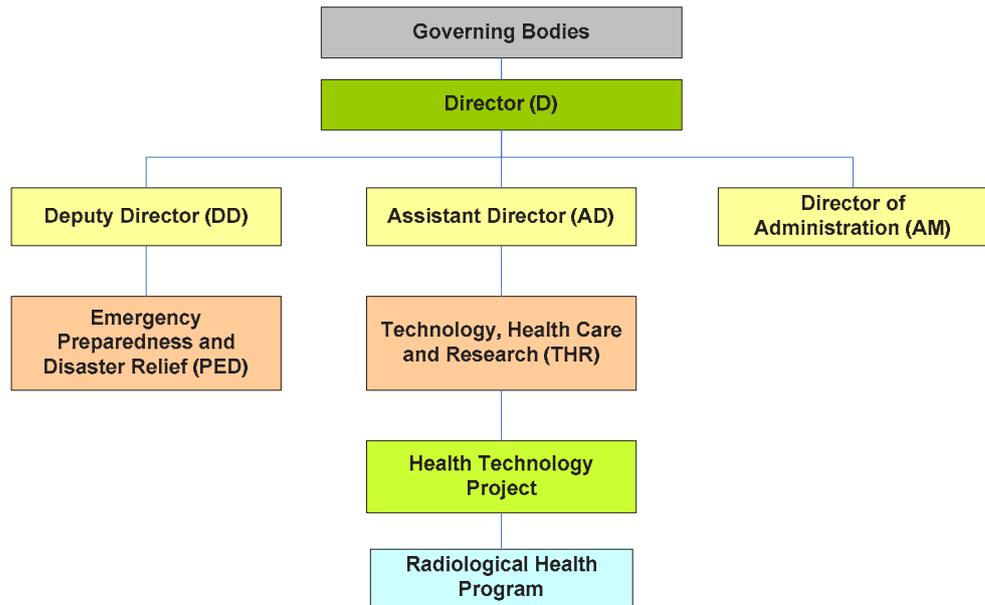
1994: “To endorse the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

“To urge the Member States to draw on the guidance provided by the International Basic Safety Standards when establishing regulations and operational criteria in the field of radiation safety.

“To ask the Director, in accordance with the availability of resources from the Organization, to continue cooperating with the Member States in the development and implementation of national plans on radiation safety.”

According to PAHO constitution, the Governing Bodies set the organization's mandates. In regard to emergency preparedness and response to support member countries to strengthen their national capacity and formulate plans of action for various types of disasters, and in regard to radiation safety standards, which address radiological and nuclear emergencies, the resolutions approved by the Governing Bodies are listed in Appendix B.

Organization



Capabilities and arrangements

In the area of radiological emergencies, two programmes are collaborating closely: Radiological Health (RAD), within the Project of Health Technologies (THR/HT) and the Area of Emergency Preparedness and Disaster Relief (PED).

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.

Should an 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 the nuclear or radiological emergency occur in a Latin American or Caribbean country, the Ministries of Health involved 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 be provided through consultation with PAHO Collaborating Centres, especially REAC/TS in the USA, relying heavily on REMPAN for medical assistance, and on the international collaboration of specialized agencies such as the IAEA.

PAHO has response capacity in:

- emergency co-ordination and evaluation of needs;
- co-ordination of a PAHO/HQ task force on biological, chemical and radiological terrorism and international health assistance;
- mobilization of a cadre of experts from among a wide variety of disciplines to assist an affected country to manage the aftermath of an emergency situation;
- provision of authoritative information on the health situation to the international community and alerting neighbouring countries if necessary;
- mobilization of SUMA, the humanitarian supply management system, which helps make the process more transparent and accountable.



The Pan American Health Organization is a decentralized institution, providing its co-operation in preparedness for radiological and nuclear accidents to its member states through its country offices and collaborating centres by means of:

- elaboration, compilation, adaptation, translation, publication and dissemination of documents and publications;
- training programmes;
- internet networks;
- direct consultation.

The most relevant activities in prevention and preparedness of radiological emergencies are as follows:

- analysis of past accidents/disasters;
- 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;
- development of response teams for radiological/nuclear emergencies;
- participation and/or organization of radiological/nuclear simulation 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

Official address

United Nations Environment
Programme (UNEP)
United Nations Avenue, Gigiri
P.O. Box 30552
Nairobi, Kenya
<http://www.unep.org>

Office responsible for emergency response

Joint UNEP/OCHA Environment Unit /
Environmental Emergencies Section
Emergency Services Branch
Office for the Coordination of Humanitarian
Affairs (OCHA)
Palais des Nations, D-114
1211 Geneva 10, Switzerland
Tel: +41 (22) 917 1142 / 1815
Tel: +41 (22) 917 2010 (Emergency ONLY)
Fax: +41 (22) 917 0257
Email: OCHAUNEP@UN.ORG

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.

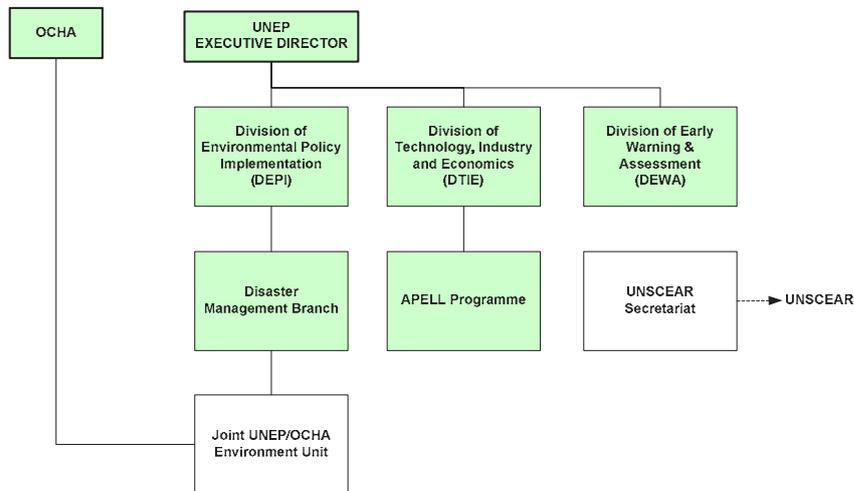
In addition, UNEP makes arrangements for the Vienna-based secretariat of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

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.

- Monitor - Continuous monitoring and ongoing 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 <http://ochaonline.un.org/ochaunep>.

UNEP contributes its environmental expertise to the efforts of the international community in the field of environmental emergencies. A number of institutional structures exist within UNEP for this endeavour.

UNEP's seeks to minimize environmental threats to human well-being from the environmental causes and consequences of conflicts and disasters, and through the Disasters and Conflicts programme, UNEP provides four core services to Member States:

- Post-crisis environmental assessments
- Post-crisis environmental recovery
- Environmental cooperation for peace building
- Disaster risk reduction

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

Headquarters

Emergency Services Branch
United Nations Office for the Co-ordination of Humanitarian Affairs
Palais des Nations,
CH-1211 Geneva 10, SWITZERLAND

Tel: +41 (22) 917 1234

Tel: +41 (22) 917 2010 (Emergency ONLY)

Fax: +41 (22) 917 0023

Email: OCHAUNEP@UN.ORG

<http://ochaonline.org>

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 Emergency Relief Co-ordinator, who has the mandate to co-ordinate UN assistance in humanitarian crises that go beyond the capacity and mandate of any single UN agency. The Emergency Relief Co-ordinator, under the aegis of the General Assembly and working under the direction of the Secretary-General, has the following responsibilities⁶²:

- 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;
- managing, in consultations with the operational organizations concerned, the central emergency revolving 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.

B

⁶² General Assembly Resolution A/RES/46/182, 1992 on Strengthening of the co-ordination of humanitarian emergency assistance of the United Nations.

OCHA has a Memorandum of Understanding with the IAEA⁶³, which encompasses: the specific responsibilities of OCHA and the IAEA in a radiation emergency; disaster related activities in respect of which OCHA and the IAEA 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 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 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.

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 charged⁶⁴ 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 Understanding⁶⁵ with the IAEA recognizes that the IAEA will provide, upon request from the Government of a country or from OCHA, 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.

B

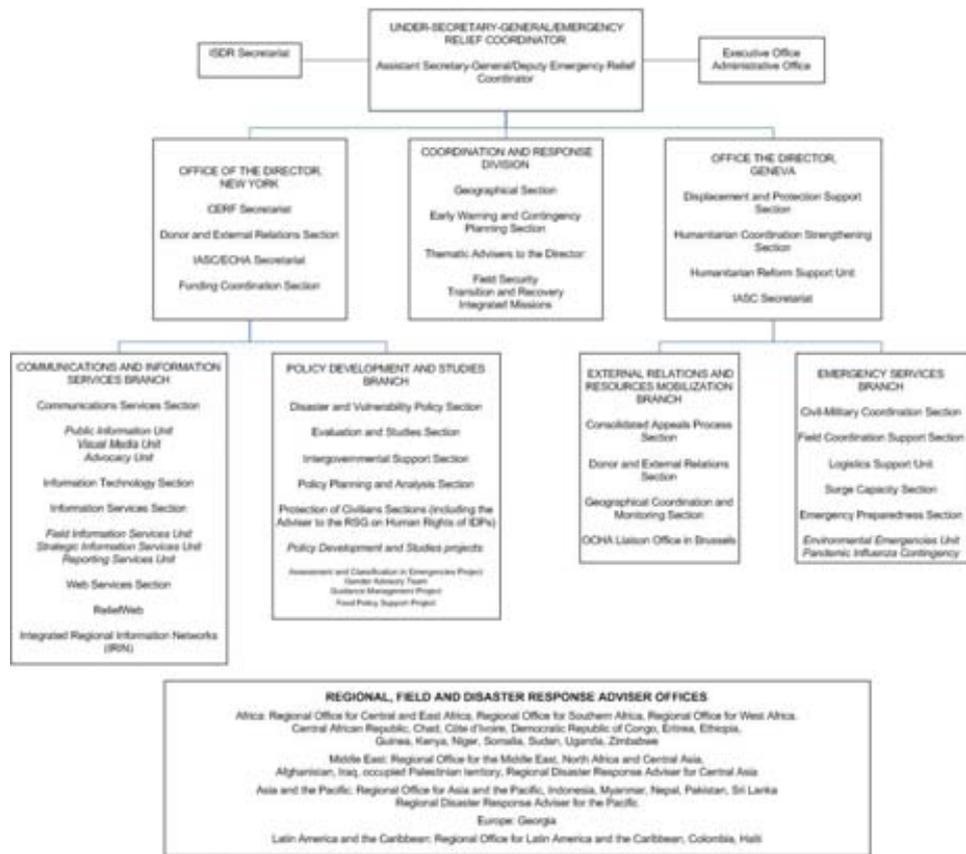
On the basis of existing mandates and drawing upon monitoring arrangements available within the system, the United Nations is charged with building upon the existing capacities of relevant organizations and entities of the United Nations, for the systematic pooling, analysis and dissemination of early 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.

⁶³ Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

⁶⁴ General Assembly Resolution A/RES/46/182, 1992 on Strengthening of the co-ordination of humanitarian emergency assistance of the United Nations.

⁶⁵ Memorandum of Understanding between the Director General of the International Atomic Energy Agency and the United Nations Disaster Relief Co-ordinator, 1977.

Organization



Capabilities and arrangements

When a major emergency or disaster occurs, OCHA consults with the UN Country Team through the Office of the United Nations Resident Coordinator/Representative 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 (UN)ERC, who is responsible for co-ordination among humanitarian entities. The (UN)ERC achieves this mainly through his/her chairing of the inter-agency standing committee (IASC), which brings together all major humanitarian actors, both within and outside the UN system. 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.

The 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;
- if required, and in consultation with the United Nations Resident Coordinator/Representative, can field a United Nations Disaster Assessment and Co-ordination (UNDAC) team to assist in emergency assessment and field co-ordination during the initial relief phase. The UNDAC team consists of qualified and specially trained national emergency management experts, as well as OCHA staff, who are on permanent standby. Team members can leave within hours, accompanied by means of communication. The UNDAC team works under the authority of the United Nations Resident Coordinator/Representative and co-operates with the local emergency management authorities in carrying out assessment and co-ordination tasks at a disaster site, or assists them in coordinating incoming and locally available assistance capacities;
- alerts and co-ordinates 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;
- can mobilize and co-ordinate the deployment and use of military, civil protection and civil defence assets, which include specialized personnel and equipment required for disaster relief operations (e.g. aircraft, helicopters, ships, nuclear decontamination facilities, field hospitals, water purification units);
- manages and maintains a central register of disaster management capacities, which may be available for international assistance, including assistance relating to international search and rescue teams, on emergency stockpiles of disaster relief items, on disaster management expertise, on military and civil defence assets, on

customs focal points, on contacts for disaster response, and on major donors for emergency humanitarian assistance.

UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS (OOSA)

Address

Headquarters

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: ooosa@unvienna.org (General)

soregister@unoosa.org (Space objects related)

URL: <http://www.unoosa.org/>

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.

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 instruments⁶⁶. 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

⁶⁶ 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);

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.

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.

B

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.

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

B**Address****Headquarters**

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>

**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 and effects of exposure to ionizing radiation. Specifically, the General Assembly has mandated^{67,68} the Committee:

⁶⁷ UN General Assembly resolution 913(X), Effects of atomic radiation, 3 December 1955.

⁶⁸ UN General Assembly resolution 60/98, Effects of atomic radiation, 8 December 2005, etc.

- 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:
 - (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;

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 and effects of exposure to ionizing radiation. Specifically, the General Assembly has mandated^{69,70} 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:
 - (i) reports on observed levels of ionizing radiation and radioactivity in the environment;
 - (ii) reports on scientific observations and experiments relevant to the effects of ionizing radiation upon man and his environment already underway or later undertaken by national scientific bodies or by authorities of national Governments;
- To recommend uniform standards with respect to procedures for sample collection and instrumentation, and radiation counting procedures to be used in analyses of samples;
- To compile and assemble in an integrated manner the various reports on observed radiological levels;
- To increase knowledge of the levels, effects and risks of ionizing radiation from all sources;
- 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;

B

⁶⁹ UN General Assembly resolution 913(X), Effects of atomic radiation, 3 December 1955.

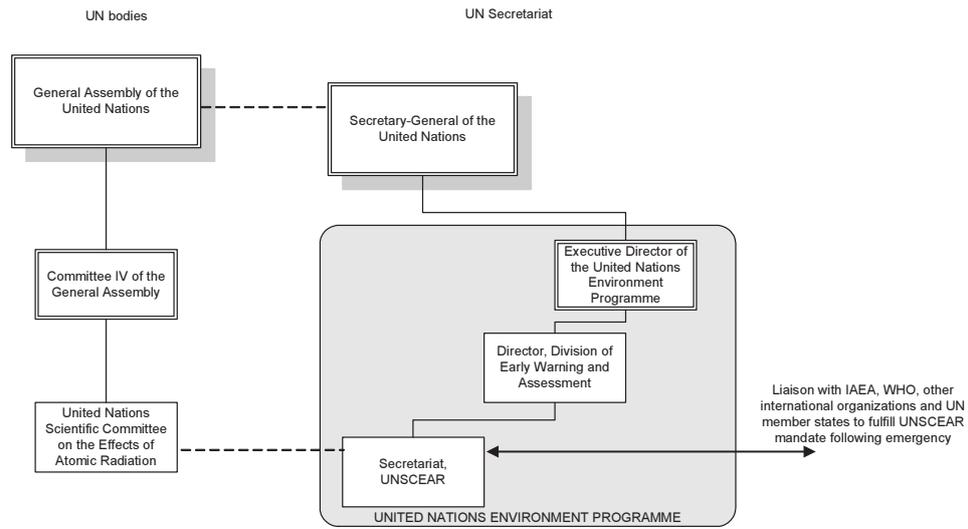
⁷⁰ UN General Assembly resolution 60/98, Effects of atomic radiation, 8 December 2005, etc.

- 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;

The Committee does not address protection 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 21 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 and effects.

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 and effects of ionizing radiation; and, if necessary, it can convene an extraordinary session 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 and effects 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 and risks of ionizing radiation; 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 and effects 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 21 of the UN Member States, its work is conducted on behalf of all States Members 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 and effects of specific exposures.

WORLD HEALTH ORGANIZATION (WHO)

Address

Headquarters

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>

B

Responsibilities and authorities

The World Health Organization (WHO), under its Constitution, has the statutory general responsibilities relevant to emergency response⁷¹:

- 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

⁷¹ Constitution of the World Health Organization, Chapter II – Functions, Article 2.

- 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 International Health Regulations Coordination Department's National Capacity Monitoring and Country Surveillance and Response Strengthening units and other programmes, is also actively supporting and monitoring public health capacity building activities by the IHR States Parties. Under the IHR (2005), all 194 States Parties are required to develop and maintain a range of core public health capacities, including specifically public health emergency preparedness (with relevant public health emergency response plans), surveillance, assessment and response both generally and also 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 biological or chemical origin⁷².

Under the IHR (2005), all States Parties are required to have National IHR Focal Points, which are available at all times for urgent communications with WHO and within their countries, including in the context of 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.

Detailed guidance and assessment materials supporting these capacities (including those relating to radiation risks) are being developed by WHO headquarters in collaboration with relevant technical programmes, including Radiation Programme of the Interventions for Healthy Environment Unit (Department of Public Health and Environment, Health Security and Environment Cluster) and at various regional offices of WHO. Training and assessment workshops and meetings are taking place in all regions supporting these activities. All States Parties were required to complete an assessment of their existing capacities and resources by 15 June 2009. The required capacities must be in place as soon as possible, but no later than 2012 (unless limited extensions apply).

WHO is a full party to the Early Notification and Assistance Conventions⁷³ 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.

⁷² Under the IHR (2005), all States Parties are required to have National IHR Focal Points, which are available at all times for urgent communications with WHO and within their countries, including in the context of 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.

⁷³ 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.

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.

B

World Health Organization has the statutory responsibilities with regard to preparedness and response to radiological or nuclear emergency as listed in Annex B. In 2002, 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". The WHA55.16 recognized that one of the most effective methods of preparing for deliberately caused disease is to strengthen public health surveillance and response activities for naturally or accidentally occurring diseases. The 2002 World Health Assembly⁷⁴:

- 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;

⁷⁴ 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

- (3) to treat any deliberate use of ...chemical agents and radiological or nuclear attack ...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, 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.

Additionally to that, the World Health Assembly of 2006, adopted WHA59.22 on May 27, 2006 the Resolution on "Emergency Preparedness and Response", in which WHA:

- 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;
- 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 which would assure immediate mobilization of vital supplies in emergencies and 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 2007⁷⁵ and are binding upon 194 States Parties (including all 193 WHO Member States). They were negotiated and adopted by the WHO Member States to establish a global legal framework for coordinated response to potential international public health emergencies and public health risks, applicable to virtually all serious public health risks which could be transmitted across borders. In light of their purpose and scope, and definitions of "disease", "event", "public health risk"⁷⁶ and other relevant terms, the IHR (2005) are very broad in their application, focusing upon almost all serious public health risks that might spread across international borders, including those of radioactive origin. However, only a subset of events involving radiation presents the risks to public health to trigger many of the provisions in the IHR.

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

- Receive notifications and reports from all States Parties concerning public health emergencies and risks of potential international public health 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 to WHO
- Collaborate with and support States Parties in responding to public health risks and emergencies, including technical guidance and assistance and assessing the effectiveness of control measures with the mobilization of international teams of experts for onsite assistance when necessary
- Assess events for their risks to public health and related interests
- Disseminate information on relevant public health risk and emergencies through multiple channels to States Parties, relevant international organizations and others depending upon the circumstances, in accordance with specified requirements and restrictions
- Determine (by the Director General) whether a *public health emergency of international concern* is occurring, and if so, determine when it has terminated, according to specified procedures including potential advice by an IHR Emergency Committee of experts
- Issue (by the Director-General) "temporary recommendations" to States Parties and others of appropriate responsive health measures by States, in accordance with specified criteria and considering activities of other intergovernmental organizations and international bodies, and coordinate international response, when such *public health emergencies of international concern* are ongoing,
- 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;

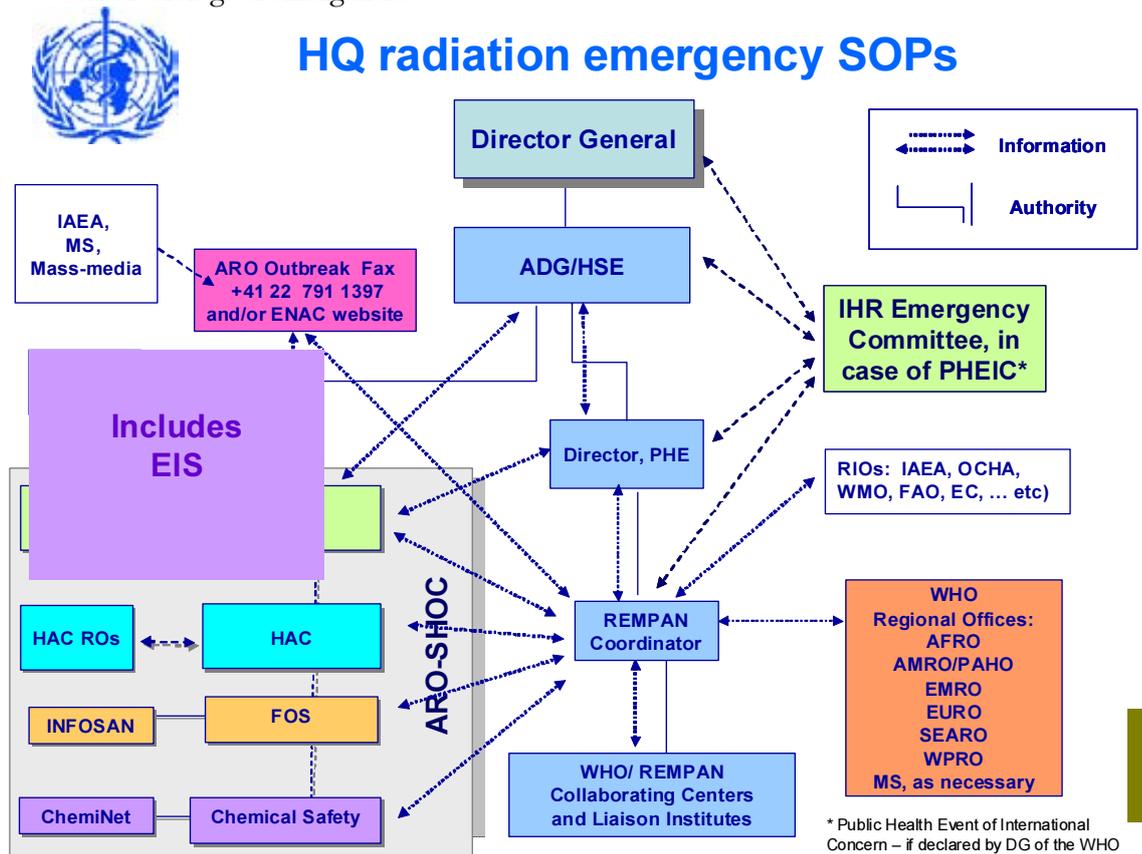
⁷⁵ *International Health Regulations (2005)*. Second edition, WHO: Geneva 2008, available at http://www.who.int/ihr/IHR_2005_en.pdf.

⁷⁶ IHR (2005) definitions of "disease", "event" and "public health risk": "disease" means an illness or medical condition, irrespective of 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).

- Coordinates with such other organizations or bodies which may have primary competence for notification, verification or response in order to ensure adequate protection for public health, although nothing above or in the IHR bullet precludes or limits provision by WHO of advice, support or technical or other assistance for public health purposes

Organization

The following diagram illustrates the organization of WHO for responding to nuclear and radiological emergencies.



Overall responsibility for WHO preparedness for radiation emergencies, update of the WHO Plan for Medical Response to Radiation Emergencies, REMPAN coordination and maintenance lays with the Department of Public Health and Environment, Health Security and Environment Cluster, World Health Organization Headquarters, Geneva.

Specific responsibility for preparedness of the REMPAN for radiation emergency, day-to-day operations coordination and network maintenance is a responsibility of the REMPAN coordinator – a professional WHO staff member, Department of Public Health and Environment, Health Security and Environment Cluster, World Health Organization Headquarters, Geneva.

Capabilities and arrangements

The resources in the World Health Organization are as follows:

- Public health emergencies, including those involving radiation or related health risks are subject to coordination and 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.

- The Radiation Team (RAD) of the Interventions for Health Environment Programme (IHE) of the Department of Public Health and Environment (PHE) is a key Unit in the area of radiation emergency response of the WHO. RAD works closely with the IAEA's Incident and Emergency Centre in maintaining and mobilizing its international response system.
- Coordinated by RAD, the Radiation Emergency Medical Preparedness and Assistance Network (REMPAN⁷⁷) provides access to a large number of specialized facilities and equipment of the WHO collaborating institutions in Member States for consultation, diagnostics and treatment of radiation injuries and delayed health consequences of radio-nuclear accidents.
- REMPAN maintains its operability and preparedness through participation in coordinated international and WHO emergency exercises, , continuous information exchange, and professional training in radiation emergency medicine.
- Coordinated by RAD, the WHO BioDoseNet⁷⁸ - a global network of biodosimetry laboratories (coordinated by RAD/IHE/PHE) provides technical advice and supports IAEA's capacity to respond to a large event when cytogenetic capacity of RANET laboratories is overwhelmed.
- The WHO system of emergency response is activated in accordance with WHO Standard Operational Procedures (SOPs) for WHO and REMPAN.
- REMPAN resources provide access to the roster of experts in radiation medicine, radiobiology, radiation epidemiology, dosimetry, and radiation protection world-wide. WHO staff and REMPAN experts may be employed when compiling IAEA's emergency response teams for work in the field, subject to the availability of funding.
- Limited funds and 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.
- Internet, computing and communication facilities.

In accordance with its statutory responsibilities the WHO works with its regional offices, specialized medical and research centres comprising REMPAN, and other international agencies and organizations on strengthening preparedness and building capacity of national public health systems of the Member States through the following activities:

- | |
|---|
| <ul style="list-style-type: none">• WHO coordinates and maintains activities of the global network of collaborating centres and liaison institutions – REMPAN |
|---|

⁷⁷ WHO REMPAN: http://www.who.int/ionizing_radiation/a_e/rempan/en/index.html

⁷⁸ WHO BioDoseNet: http://www.who.int/ionizing_radiation/a_e/biodosenet/en/index.html

- REMPAN experts provide technical support in interventions related to medical and public health management of radiation emergencies, treatment and follow-up of victims
- WHO organizes regular meetings of REMPAN representatives with the purpose of sharing knowledge, exchanging experience and lessons learned from treatment of victims of accidental over-exposure to ionizing radiation, reporting on accomplished and planned activities, and improvement of coordination and communication within the network
- WHO conducts regular communication tests and emergency drills within WHO and REMPAN
- REMPAN collaborating centres provide assistance to national health authorities through developing guidance, manuals, policies for medical and public health preparedness for nuclear or radiological emergencies and through national and regional training programmes for health workers
- WHO participates in development, planning, organization and conduction of international exercises on nuclear emergencies and in the assessment and analysis of the results and lessons learned
- WHO prepares, publishes and disseminates education and training materials for physicians on diagnostics and management of radiation injuries, public health preparedness and response, and delayed effects of accidental over-exposure to ionizing radiation.

WHO is a co-sponsor of the "International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of radiation Sources" and of the "Safety Requirements: Preparedness and Response for a Nuclear or Radiological Emergency" issues by the IAEA.

WHO worked with the Joint FAO/WHO Codex Alimentarius Commission in the establishment of revised Codex Guideline Levels for Radionuclides in Foods⁷⁹.

WORLD METEOROLOGICAL ORGANIZATION (WMO)

B

Address

Headquarters

World Meteorological Organization
7 bis, Avenue de la Paix
CH-1211 Geneva 2
C.P. 2300
SWITZERLAND
<http://www.wmo.int>

Responsibilities and authorities

Within the United Nations, the Geneva based WMO provides the authoritative scientific voice on the state and behaviour of the Earth's atmosphere and climate. The purposes of WMO are to facilitate international co-operation in the establishment of networks of stations for making meteorological, hydrological and other observations; and to promote the rapid exchange of meteorological information, the standardization

⁷⁹ Joint FAO/WHO Food Standards Programme; Codex General Standard for Contaminants and Toxins in Foods; Schedule I – Radionuclides; (CODEX STAN 193-1995).

of meteorological observations and the uniform publication of observations and statistics.

The WMO is a full party to the Early Notification and Assistance Conventions⁸⁰ and, as such, the WMO:

- 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;
- 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 material that 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 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.

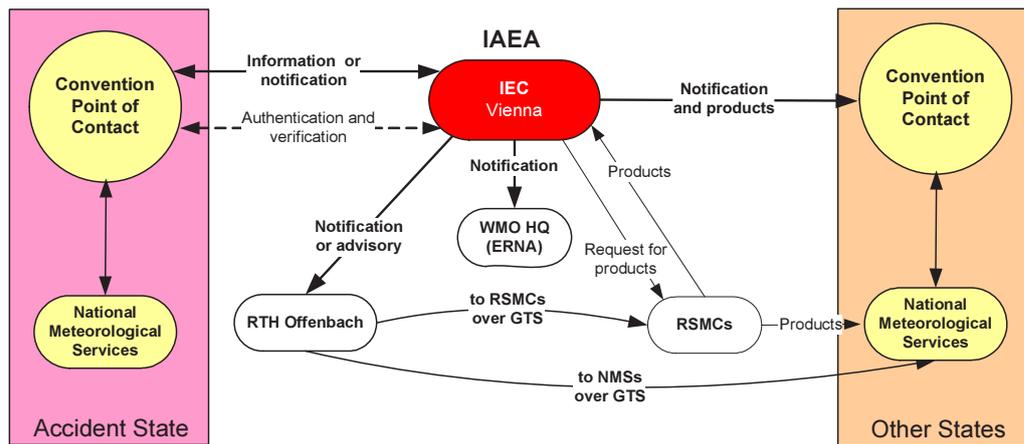
B

Expert services can be requested through the Secretary-General of WMO if a country and its national meteorological service need the assistance of experts in the field of atmospheric transport, e.g. dispersion and deposition models, and for example, their characteristics and performance or the interpretation and evaluation of the output products. Such service can also be requested when a country and its national hydrological service need the assistance of experts in the assessment, monitoring and prediction of the transport and dilution of radioactive material in surface and subsurface water bodies.

Organization

The organization chart illustrates the manner in which the IAEA and WMO cooperate in order to notify and provide meteorological products to States during an emergency.

⁸⁰ Convention on Early Notification of a Nuclear Accident, Instrument of Accession, 16 Oct. 1990.



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 activities of WMO include provision of environmental observational data and meteorological analyses and forecasts, operation of the WMO Global Telecommunication System (GTS) in support of the Early Notification and Assistance Conventions and, from certain dedicated centres of the WMO Global Data-Processing and Forecasting System (GDPFS), provision of specialized atmospheric transport and dispersion model forecast products. In addition, the National Meteorological and Hydrological Services (NMHSs) advise governments in matters related to an environmental emergency in accordance with pertinent national regulations. The IAEA has implemented procedures in co-ordination with WMO for obtaining meteorological support from designated RSMCs.

At present the IAEA issues notification messages using fax machines and other technologies as means of communications and the WMO offers the Global Telecommunications Network (GTS) as a backup network. The WMO Regional Telecommunication Hub (RTH) Offenbach dispatches relevant messages to the GTS which will use the WMO abbreviated bulletin heading WNXX01 for global distribution.

At present, there are eight designated RSMCs 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 use sophisticated atmospheric simulation models to provide information on actual and anticipated atmospheric transport, dispersion and deposition of pollutants. All RSMCs operate around the clock, every day. National meteorological centres using the products provide interfaces and services to the national authorities concerned.

Regional and global arrangements for the provision of transport model products for environmental emergency response are specified in the WMO Manual on the GDPFS (WMO No. 485)⁸¹ and essential aspects may be accessed on the WMO web site

⁸¹ WMO-No. 485 Manual on the Global Data-processing and Forecasting System, (Annex IV to the WMO Technical Regulations), Appendices I-1, I-3 and II-7. Documentation on RSMC support for environmental emergency response (targeted to meteorologists at NMSs) WMO-TD/No. 778.



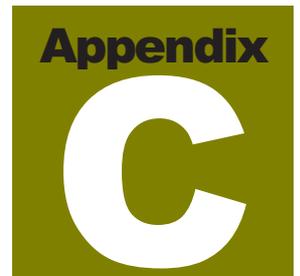
under: WWW, Programmes, Emergency Response Activities, Transport model products:

<http://www.wmo.int/index-en.html>

A list of contact points for the RSMCs and national meteorological centres (NMCs) is available on the WMO web site under: WWW, Programmes, Emergency Response Activities:

<http://www.wmo.int/index-en.html>

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



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	An official report to a national or international authority by an authorized competent authority providing details of an actual, potential or perceived nuclear or radiological emergency.
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 ongoing UN country programme ⁸² .
Dangerous source	A source that could, if not under control, give rise to exposure sufficient to cause a severe deterministic health effects.
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 ⁸² .
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.

⁸² These are general definitions used by the international humanitarian assistance community that are not specific to nuclear accidents or radiological emergencies.

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.
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.
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.
Notification	A report 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 ⁸³ (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.
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

⁸³ FAO/IAEA/ILO/OECD(NEA)/OCHA/PAHO/WHO, Preparedness and Response for a Nuclear or Radiological Emergency, GS-R-2, IAEA, Vienna (2002)

Participating organization International intergovernmental organization cosponsoring the Joint Plan.

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.

ACC	Area Control Centre (of ICAO)
AGE	Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
ConvEx	Convention Exercises (organized by the IAEA)
CRPPH	OECD/NEA Committee on Radiation Protection and Public Health
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
ENATOM	Emergency Notification and Assistance Technical Operations Manual
ERC	Emergency Response Centre of the IAEA
ERNET	Emergency Response Network of the IAEA
ESB	Emergency Services Branch (of OCHA)
EU	European Union
EURDEP	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
IHR	International Health Regulations
ILO	International Labour Organization
INEX	NEA's International Nuclear Emergency Exercise
IMO	International Maritime Organization
INTERPOL	International Criminal Police Organization
MWO	Meteorological Watch Office
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
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
OSOCC	On-site Operations Co-ordination Centre (mobilised through OCHA)
PAHO	Pan American Health Organization
RANET	IAEA's Response Assistance Network
RAP	Response Assistance Plan (of the IAEA)
REMPAN	Radiation Emergency Medical Preparedness and Assistance Network (of the WHO)
RO	Regional Offices (of the WHO)
RCB	Response Co-ordination Branch (of OCHA)
RESPEC	Radiological Emergency Support Programme for the European Commission
RSMC	Regional Specialized Meteorological Centre (of the 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
ERC	Emergency Relief Co-ordinator
UNICEF	United Nations Children's Fund
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
WAFC	World Area Forecast Centre (of ICAO)
WCO	World Customs Organization
WHO	World Health Organization
WMO	World Meteorological Organization
WPNEM	OECD/NEA Working Party on Nuclear Emergency Matters



APPENDIX D

Publications of relevance to emergency preparedness and response

General

INTERNATIONAL ATOMIC ENERGY AGENCY, Emergency Notification and Assistance Technical Operations Manual, EPR-ENATOM, IAEA, Vienna (2009)

INTERNATIONAL ATOMIC ENERGY AGENCY, IAEA, Response Assistance Network, EPR-RANET 2006, IAEA, Vienna (2006)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANISATION, OECD NUCLEAR ENERGY AGENCY, PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, Safety Series No. 115, IAEA, Vienna (1996)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, OECD NUCLEAR ENERGY AGENCY, UNITED NATIONS OFFICE FOR THE COORDINATION 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)

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, Intervention Criteria in a Nuclear or Radiation Emergency, Safety Series No. 109, IAEA, Vienna (1994)

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 Event Scale (INES) User's Manual, 2001 Edition, IAEA-INES-2001, IAEA, Vienna (2001)

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)

UNITED NATIONS, Sources and Effects of Ionizing Radiation, Volume I: Sources; Volume II: Effects, United Nations Scientific Committee on the Effects of Atomic Radiation, 2000 Report to the General Assembly, with scientific annexes. United Nations sales publication E.00.IX.3 and E.00.IX.4, United Nations, New York (2000)

UNITED NATIONS, Hereditary Effects of Radiation, United Nations Scientific Committee on the Effects of Atomic Radiation, 2001 Report to the General Assembly, with scientific annex. United Nations sales publication E.01.IX.2, United Nations, New York (2001)

Transport accidents

INTERNATIONAL ATOMIC ENERGY AGENCY, Regulations for the Safe Transport of Radioactive Material, IAEA Safety Standards Series No. TS-R-1, IAEA, Vienna (2005)

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

D

- INTERNATIONAL ATOMIC ENERGY AGENCY, Manual for First Responders to a Radiological Emergency, EPR-First Responder 2006, IAEA, Vienna (2006)
- 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** INTERNATIONAL ATOMIC ENERGY AGENCY, WORLD HEALTH ORGANIZATION, Diagnosis and Treatment of Radiation Injuries, Safety Reports Series No. 2, IAEA, Vienna (1998)
- 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, NRP, HPA, WHO, STUK, Enviros, CLOR, EC), Lobo Media AS, Norway, 2009, 556p.
- Food and agriculture** 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)
- JOINT FAO/WHO FOOD STANDARDS PROGRAMME (2006), Codex General Standard for Contaminants and Toxins in Foods, Schedule I – Guideline Levels for Radionuclides in Foods, (CODEX STAN 193-1995).
- 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, WORLD CUSTOMS ORGANIZATION, EUROPOL, INTERPOL, Prevention of the Inadvertent Movement and Illicit Trafficking of Radioactive Materials, IAEA-TECDOC-1311, IAEA, Vienna (2002)
- INTERNATIONAL ATOMIC ENERGY AGENCY, WORLD CUSTOMS ORGANIZATION, EUROPOL, INTERPOL, Detection of Radioactive Materials at Borders, IAEA-TECDOC-1312, IAEA, Vienna (2002)
- INTERNATIONAL ATOMIC ENERGY AGENCY, WORLD CUSTOMS ORGANIZATION, EUROPOL, INTERPOL, Response to Events Involving the

Inadvertent Movement or Illicit Trafficking of Radioactive Materials, IAEA-TECDOC-1313, IAEA, Vienna (2002)

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)



IAEA

International Atomic Energy Agency

No. 21, July 2006

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.

Australia

DA Information Services, 648 Whitehorse Road, Mitcham Victoria 3132
Telephone: +61 3 9210 7777 • Fax: +61 3 9210 7788
Email: service@dadirect.com.au • Web site: <http://www.dadirect.com.au>

Belgium

Jean de Lannoy, avenue du Roi 202, B-1190 Brussels
Telephone: +32 2 538 43 08 • Fax: +32 2 538 08 41
Email: jean.de.lannoy@infoboard.be • Web site: <http://www.jean-de-lannoy.be>

Canada

Bernan Associates, 4611-F Assembly Drive, Lanham, MD 20706-4391, USA
Telephone: 1-800-865-3457 • Fax: 1-800-865-3450
Email: order@bernan.com • Web site: <http://www.bernan.com>

Renouf Publishing Company Ltd., 1-5369 Canotek Rd., Ottawa, Ontario, K1J 9J3
Telephone: +613 745 2665 • Fax: +613 745 7660
Email: order.dept@renoufbooks.com • Web site: <http://www.renoufbooks.com>

China

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

Czech Republic

Suweco CZ, S.R.O. Klecakova 347, 180 21 Praha 9
Telephone: +420 26603 5364 • Fax: +420 28482 1646
Email: nakup@suweco.cz • Web site: <http://www.suweco.cz>

Finland

Akateeminen Kirjakauppa, PL 128 (Keskuskatu 1), FIN-00101 Helsinki
Telephone: +358 9 121 41 • Fax: +358 9 121 4450
Email: akatilaus@akateeminen.com • Web site: <http://www.akateeminen.com>

France

Form-Edit, 5, rue Janssen, P.O. Box 25, F-75921 Paris Cedex 19
Telephone: +33 1 42 01 49 49 • Fax: +33 1 42 01 90 90 • Email: formedit@formedit.fr

Lavoisier SAS, 14 rue de Provigny, 94236 Cachan Cedex
Telephone: +33 1 47 40 67 00 • Fax: +33 1 47 40 67 02
Email: livres@lavoisier.fr • Web site: <http://www.lavoisier.fr>

Germany

UNO-Verlag, Vertriebs- und Verlags GmbH, August-Bebel-Allee 6, D-53175 Bonn
Telephone: +49 02 28 949 02-0 • Fax: +49 02 28 949 02-22
Email: info@uno-verlag.de • Web site: <http://www.uno-verlag.de>

Hungary

Librotrade Ltd., Book Import, P.O. Box 126, H-1656 Budapest
Telephone: +36 1 257 7777 • Fax: +36 1 257 7472 • Email: books@librotrade.hu

India

Allied Publishers Group, 1st Floor, Dubash House, 15, J. N. Heredia Marg, Ballard Estate, Mumbai 400 001,
Telephone: +91 22 22617926/27 • Fax: +91 22 22617928
Email: alliedpl@vsnl.com • Web site: <http://www.alliedpublishers.com>

Bookwell, 24/4800, Ansari Road, Darya Ganj, New Delhi 110002
Telephone: +91 11 23268786, +91 11 23257264 • Fax: +91 11 23281315
Email: bookwell@vsnl.net • Web site: <http://www.bookwellindia.com>

Italy

Libreria Scientifica Dott. Lucio di Biasio "AEIOU", Via Coronelli 6, I-20146 Milan
Telephone: +39 02 48 95 45 52 or 48 95 45 62 • Fax: +39 02 48 95 45 48

Japan

Maruzen Company, Ltd., 13-6 Nihonbashi, 3 chome, Chuo-ku, Tokyo 103-0027
Telephone: +81 3 3275 8582 • Fax: +81 3 3275 9072
Email: journal@maruzen.co.jp • Web site: <http://www.maruzen.co.jp>

Korea, Republic of

KINS Inc., Information Business Dept. Samho Bldg. 2nd Floor, 275-1 Yang Jae-dong SeoCho-G, Seoul 137-130
Telephone: +02 589 1740 • Fax: +02 589 1746
Email: sj8142@kins.co.kr • Web site: <http://www.kins.co.kr>

Netherlands

Martinus Nijhoff International, Koraalrood 50, P.O. Box 1853, 2700 CZ Zoetermeer
Telephone: +31 793 684 400 • Fax: +31 793 615 698 • Email: info@nijhoff.nl • Web site: <http://www.nijhoff.nl>

Swets and Zeitlinger b.v., P.O. Box 830, 2160 SZ Lisse
Telephone: +31 252 435 111 • Fax: +31 252 415 888 • Email: infoho@swets.nl • Web site: <http://www.swets.nl>

New Zealand

DA Information Services, 648 Whitehorse Road, MITCHAM 3132, Australia
Telephone: +61 3 9210 7777 • Fax: +61 3 9210 7788
Email: service@dadirect.com.au • Web site: <http://www.dadirect.com.au>

Slovenia

Cankarjeva Založba d.d., Kopitarjeva 2, SI-1512 Ljubljana
Telephone: +386 1 432 31 44 • Fax: +386 1 230 14 35
Email: import.books@cankarjeva-z.si • Web site: <http://www.cankarjeva-z.si/uvoz>

Spain

Díaz de Santos, S.A., c/ Juan Bravo, 3A, E-28006 Madrid
Telephone: +34 91 781 94 80 • Fax: +34 91 575 55 63 • Email: compras@diazdesantos.es
carmela@diazdesantos.es • barcelona@diazdesantos.es • julio@diazdesantos.es
Web site: <http://www.diazdesantos.es>

United Kingdom

The Stationery Office Ltd, International Sales Agency, PO Box 29, Norwich, NR3 1 GN
Telephone (orders): +44 870 600 5552 • (enquiries): +44 207 873 8372 • Fax: +44 207 873 8203
Email (orders): book.orders@tso.co.uk • (enquiries): book.enquiries@tso.co.uk • Web site: <http://www.tso.co.uk>

On-line orders:

DELTA Int. Book Wholesalers Ltd., 39 Alexandra Road, Addlestone, Surrey, KT15 2PQ
Email: info@profbooks.com • Web site: <http://www.profbooks.com>

Books on the Environment:

Earthprint Ltd., P.O. Box 119, Stevenage SG1 4TP
Telephone: +44 1438748111 • Fax: +44 1438748844
Email: orders@earthprint.com • Web site: <http://www.earthprint.com>

United Nations (UN)

Dept. I004, Room DC2-0853, First Avenue at 46th Street, New York, N.Y. 10017, USA
Telephone: +800 253-9646 or +212 963-8302 • Fax: +212 963-3489
Email: publications@un.org • Web site: <http://www.un.org>

United States of America

Bernan Associates, 4611-F Assembly Drive, Lanham, MD 20706-4391
Telephone: 1-800-865-3457 • Fax: 1-800-865-3450
Email: order@bernan.com • Web site: <http://www.bernan.com>

Renouf Publishing Company Ltd., 812 Proctor Ave., Ogdensburg, NY, 13669
Telephone: +888 551 7470 (toll-free) • Fax: +888 568 8546 (toll-free)
Email: order.dept@renoufbooks.com • Web site: <http://www.renoufbooks.com>

Orders and requests for information may also be addressed directly to:

Sales and Promotion Unit, International Atomic Energy Agency

Vienna International Centre, PO Box 100, 1400 Vienna, Austria
Telephone: +43 1 2600 22529 (or 22530) • Fax: +43 1 2600 29302
Email: sales.publications@iaea.org • Web site: <http://www.iaea.org/books>

1

INTRODUCTION

2

PLANNING BASIS

3

EMERGENCY RESPONSE

4

EMERGENCY PREPAREDNESS

A

**APPENDIX A: LEGAL INSTRUMENTS, RESOLUTIONS
AND OTHER RELEVANT SOURCES**

B

**APPENDIX B: AUTHORITIES, RESPONSIBILITIES AND
CAPABILITIES OF INTERNATIONAL ORGANIZATIONS**

C

GLOSSARY AND ABBREVIATIONS

D

**PUBLICATIONS OF RELEVANCE TO
EMERGENCY PREPAREDNESS AND RESPONSE**