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IAEA INVOLVEMENT IN THE GLOBAL PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

Introduction

1. In December 1996, the United Nations General Assembly adopted Resolution 51/189 on "Institutional Arrangements for the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities". It stressed the need for States to take action for the formal endorsement by each competent international organization of those parts of the GPA which are relevant to their mandates and to accord priority to implementation of the GPA in the work programme of each organization. The IAEA was designated in that resolution as the organization responsible for "radioactive substances", one of the nine pollution source categories identified.

The Global Programme of Action (GPA)

2. The process leading to the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities started with the adoption of the **Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-Based Sources** in 1985. The United Nations Conference on Environment and Development held in Rio de Janeiro from 3 to 14 June 1992 adopted Agenda 21[1/] and placed the protection of the marine environment in the context of sustainable development. The protection of oceans, seas and coastal areas and the protection and use of living resources is the subject of Chapter 17 of Agenda 21. An Intergovernmental Conference to Adopt a Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities was then convened in Washington, D.C. from 13 October to 3 November 1995. At its closing session, the Conference adopted the Global Programme of Action (GPA) as well as the Washington

[1/] The United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992.

Declaration on the Protection of the Marine Environment from Land-Based Activities[2/], expressing the commitment of States to the Programme.

3. The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities was developed to address the problem of progressive degradation of the coastal and marine environments. It calls on Member States to identify the nature and severity of problems caused by marine pollution, to assess the severity and impacts of marine contaminants, to establish priorities for action, to define specific management objectives and to identify and evaluate strategies for achieving the coastal management objectives, including the reduction of polluting emissions to the sea. It calls on UNEP to promote and facilitate, in partnership with other organizations, the implementation of the Global Programme of Action at national, regional and international levels.

4. The Global Programme of Action (GPA) identifies the need for international co-operation and support, including capacity-building and mobilizing resources for countries in need of assistance. Each relevant organization should take actions in its domain of expertise, in close partnership with UNEP. The IAEA is among the international organizations identified as being of relevance to the GPA. Other organizations and programmes identified include the United Nations Environment Programme, the United Nations Development Programme, the United Nations Centre for Human Settlements (Habitat), the Food and Agriculture Organization of the United Nations, the World Health Organization, the International Maritime Organization, the International Labour Organization, the United Nations Industrial Development Organization, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the International Monetary Fund and the World Bank.

5. The GPA also includes development of a "clearing house mechanism" as one of its key implementation tools. This is intended to be a "referral system" through which decision makers at the national and regional levels could be provided with access to current sources of information, to marine pollution databases and to practical experience and scientific and technical expertise relevant to developing and implementing GPA strategies. In relation to this clearing house mechanism, the United Nations General Assembly Resolution 51/189 calls upon States "to take action in the governing bodies of relevant intergovernmental organizations and programmes so as to ensure that those organizations and programmes take the lead in co-ordinating the development of the clearing-house mechanism with respect to the

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2/ UNEP Intergovernmental Conference to adopt a Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, Washington, D C , 23 October-3 November 1995
Report of the Conference, UNEP/(OCA)/LBA/IG-2/6, 5 December 1995, Annex II
Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, UNEP (OCA)/LBA/IG.2/7, 5 December 1995

following source categories, which are listed in conjunction with the relevant organization(s) and/or programme(s) but not in order of priority:

(a) Sewage - the World Health Organization (WHO);

(b) Persistent organic pollutants - the Inter-Organization Programme for the Sound Management of Chemicals (IPSMC), the International Programme on Chemical Safety (IPCS) and the Intergovernmental Forum on Chemical Safety (IFCS);

(c) Heavy metals - the United Nations Environment Programme (UNEP) in co-operation with the Inter-Organization Programme for the Sound Management of Chemicals (IPSMC);

(d) Radioactive substances - **the International Atomic Energy Agency (IAEA)**;

(e) Nutrients - the Food and Agriculture Organization of the United Nations (FAO);

(f) Sediment mobilization - the Food and Agriculture Organization of the United Nations (FAO);

(g) Oils (hydrocarbons) - the International Maritime Organization (IMO);

(h) Litter - the International Maritime Organization (IMO);

(i) Physical alterations, including habitat modification and destruction of areas of concern - the United Nations Environment Programme (UNEP)."

6. Part V of the GPA recommends approaches by source category. The section dealing with "radioactive substances" is reproduced in the Annex. The GPA requests that international actions should include "support for the efforts under the auspices of IAEA to develop and promulgate radioactive waste management safety standards, guidelines or codes of practice, including work being undertaken towards an international convention on the safety of radioactive waste management, in order to provide an internationally accepted basis for the safe and environmentally sound management and disposal of radioactive wastes". International action on GPA should also support "maintenance of existing international quality assurance and standardisation mechanisms supporting the reliable measurement and assessment of radionuclides in the environment. Such existing mechanisms include the Analytical Quality Control Services provided by the Marine Environment Laboratory of IAEA".

7. The Administrative Committee on Co-ordination (ACC) Subcommittee on Oceans and Coastal Areas, in collaboration with the ACC Subcommittee for Water Resources, will

perform the functions of a steering group for the implementation of the GPA and UNEP will serve as Secretariat of GPA.

Role of the IAEA

8. Many functions of the IAEA are closely related to the implementation of the Global Programme of Action. Besides projects and tasks contained in Programme I "Radiation Safety", the following Agency subprogrammes are of particular relevance to the GPA:

- F.1. Measurement and Assessment of Radionuclides in the Marine Environment;
- F.2. Transfer of Radionuclides in the Marine Environment;
- F.3. Monitoring and Study of Marine Pollution;
- F.4. Development and Management of Water Resources;
- J.2. Safety of Released Waste.

The IAEA is active in developing standards and promoting research into methods for the safe and environmentally sound treatment, processing and disposal of radioactive wastes. Guidance is being offered to countries on the safety and environmental impact assessment of waste management facilities. Practical assistance and training related to radioactive waste management and the monitoring of radionuclides in the environment are being provided. In addition, the IAEA maintains in Monaco the only marine laboratory (Marine Environment Laboratory, MEL) within the United Nations system. The Laboratory, on the basis of a tripartite agreement between IAEA, UNEP and UNESCO-IOC, supports marine pollution related research and monitoring as well as quality assurance and training. Through the MEL, the IAEA supports the Global Investigation of Pollution in the Marine Environment (GIPME), the Group of Experts on Methods, Standards and Intercalibration (GEMSI), the Group of Experts on the Effects of Pollutants (GEEP), the Group of Experts on Standards and Reference Materials (GESREM) and the Global Ocean Observing System (GOOS). MEL acts as a regional analytical centre for the Mediterranean Action Plan (MAP) besides supporting UNEP's Regional Seas Programmes, e.g. EAF (East Africa), WACAF (West and Central Africa), ROPME (Regional Organization for Protection of the Marine Environment), etc. The Agency also gives support to GESAMP (Group of Experts on the Scientific Aspects of Marine Environmental Protection), jointly sponsored by IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP, and is involved in the preparation of the first global assessment of the impact of land-based activities on the marine, coastal and freshwater environments.

9. Many of the present activities of the Agency, as described in the Programme and Budget 1997-98, meet the GPA objectives in:

(i) development of standards for controlling discharges of radioactive materials to the marine environment;

(ii) acquisition and dissemination of information on options, methods and technologies for the control of discharges;

(iii) development of inventories of worldwide discharges of radionuclides from nuclear installations and other non-nuclear facilities into the environment, including the marine environment;

(iv) assessment of the impacts of discharges, quantification of the radiological (health related) consequences of known inputs of radioactivity to the oceans by a combination of direct measurement, modelling and radiological assessment;

(v) use of isotopes to define catchment area fluxes of water and contaminants;

(vi) training and capacity building to extend the capabilities of Member States to monitor, understand and assess marine radioactivity;

(vii) provision of analytical quality control services by implementing quality assurance programmes and distributing a wide range of intercomparison and reference materials to laboratories worldwide;

(viii) maintenance of, and the provision of global access to, a comprehensive computer database on radioactivity in the marine environment. This will provide IAEA input to a new computer-based UN Atlas of the Oceans ;

(ix) provision of an international emergency response function to assist on request with monitoring and evaluation of unplanned marine radioactivity inputs;

(x) furthering of the understanding of the oceans, their circulation and the behaviour of pollutants by using the timing and tracing potentials of marine radionuclides and stable isotopes.

10. A number of other activities of the Agency relating to non-radioactive pollutants are also relevant to the GPA, particularly:

(i) organization and implementation of data quality assurance programmes for ensuring that assessments of major marine contaminants from land-based sources (persistent organic pollutants, heavy metals, oil) are reliable and intercomparable on regional and global levels;

(ii) preparation and testing of reference methods and guidelines for marine pollution assessment and monitoring;

(iii) design of national and regional marine pollution monitoring programmes;

(iv) training in analytical chemistry relevant to research and monitoring of marine pollutants;

(v) strengthening or establishment of regional technical support centres relevant to marine pollution research and monitoring.

11. In recent years the Agency has been the facilitator of a binding agreement among States which is relevant to the GPA. The preparation of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, which was done under the auspices of the IAEA and endorsed by the GPA, has been completed and the Joint Convention was adopted at a Diplomatic Conference which took place in Vienna from 1 to 5 September 1997.

Implications for the IAEA

12. The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities is a major international activity developed on an inter-agency basis within the UN system and has been strongly supported by Member States. It is noteworthy that the demands on the IAEA are largely met by existing and long-standing activities. The implementation of the parts of the GPA relevant to the IAEA's mandate do not necessarily entail the creation of new tasks requiring additional resources. But it may rather require, in some cases, a re-orientation of existing programmes.

13. Certain parts of the Agency's programme relating to the marine environment have already been revised and appropriately fine-tuned to GPA's priorities when the 1997-98 Programme and Budget was being prepared. In the waste safety activities, a new continuing task, "Discharge the Agency's responsibilities as a lead organization related to radioactive substances under the GPA" was established. In the subprogramme on "Monitoring and Study of Marine Pollutants", a direct contribution to the GPA will be made through studies to identify whether specific marine pollutants are in fact of land-based origin. It is worth noting that the opening in 1998 of new purpose-designed premises for IAEA-MEL, with for the first time a training centre and other facilities, will strengthen the laboratory's capacity-building inputs to GPA. The Global Programme of Action will also provide a theme for the IAEA Symposium on Marine Pollution which will be hosted by IAEA-MEL in October 1998.

14. The task of developing and maintaining the clearing house mechanism for radioactive substances assigned to the IAEA in the General Assembly Resolution is already covered to

a great extent by the Agency's programme of activities. Any additional activities or funds required in the future to support the GPA will obviously be submitted to the Board of Governors.

Global Programme of Action Recommended Approach for the source-category: "Radioactive substances"

1. Basis for action

107. Radioactive substances (i.e., materials containing radionuclides) have entered and/or are entering the marine and coastal environment, directly or indirectly, as a result of a variety of human activities and practices. These activities include production of energy, reprocessing of spent fuel, military operations, nuclear testing, medical applications and other operations associated with the management and disposal of radioactive wastes and the processing of natural materials by industrial processes. Other activities, such as the transport of radioactive material, pose risks of such releases.

108. Radioactive materials can present hazards to human health and to the environment. Suspected radioactive contamination of foodstuffs can also have negative effects on marketing of such foodstuffs.

2. Objective/proposed target

109. The objective/proposed target is to reduce and/or eliminate emissions and discharges of radioactive substances in order to prevent, reduce and eliminate pollution of the marine and coastal environment by human-enhanced levels of radioactive substances.

3. Activities

(a) National actions, policies and measures

110. Actions, policies and measures of States within their national capacities should include:

(a) Promotion of policies and practical measures including setting targets and timetables to minimize and limit the generation of radioactive wastes and provide for their safe processing, storage, conditioning, transportation and disposal;

(b) Ensuring the safe storage, transportation and disposal of radioactive wastes, as well as spent radiation sources and spent fuel from nuclear reactors destined for final disposal, in accordance with international regulations or guidelines;

(c) Ensuring proper planning, including environmental impact assessment, of safe and environmentally sound management of radioactive waste, including emergency procedures, storage, transportation and disposal, prior to and after activities that generate such waste;

(d) Adoption of measures, including best available techniques and best environmental practice, for the reduction and/or elimination of inputs of

radioactive substances to the marine and coastal environment for the purpose of preventing and eliminating pollution of the marine and coastal environment;

(e) Ratification and/or implementation of relevant international and regional conventions, decisions and resolutions.

111. States should:

(a) Not promote or allow the storage or disposal of high-level, intermediate-level and low-level radioactive wastes near the marine and coastal environment unless they determine that scientific evidence, consistent with the applicable internationally agreed principles and guidelines, shows that such storage or disposal poses no unacceptable risk to people and the marine and coastal environment or does not interfere with other legitimate uses of the sea, making, in the process of consideration, appropriate use of the concept of the precautionary approach;

(b) Respect, in accordance with international law, the decisions, as far as applicable to them, under other relevant regional and other international environmental conventions dealing with other aspects of safe and environmentally sound management of radioactive wastes;

(c) Conclude and sign the Comprehensive Test Ban Treaty by no later than 1996;(*)

(d) Make available information on the characteristics of terrestrial dump sites in coastal areas through, and consistent with, agreed regional and international reporting procedures. The information should include the magnitude, types of materials, characteristics of storage and status of the dump sites.

(b) Regional actions

112. Relevant regional organizations, in accordance with regional needs and capacities, should ensure:

(a) Monitoring of radioactivity in their regions and identification of any problem areas;

(b) The establishment of criteria for assessing and/or reporting on the use in their region of best available techniques to prevent and eliminate pollution by inputs of radioactive substances;

(c) The preparation of comprehensive environmental assessments of the effect on the marine and coastal environment of historical discharges and current discharges of radioactive substances.

(c) International actions

113. International actions should include:

(a) Support for efforts under the auspices of IAEA to develop and promulgate radioactive waste management safety standards, guidelines or codes of practice, including work being undertaken towards an international convention on the safety of radioactive waste management, in order to provide an internationally accepted basis for the safe and environmentally sound management and disposal of radioactive wastes. This work should take account of the application of best available techniques and best environmental practice for all nuclear applications not currently covered by internationally binding agreements making such provisions;

(b) Cooperation with countries in need of assistance, through financial, technical and scientific support, in ensuring environmentally sound management and storage of radioactive materials as well as supporting environmental restoration efforts;

(c) Maintenance of existing international quality assurance and standardization mechanisms supporting the reliable measurement and assessment of radionuclides in the environment. Such existing mechanisms include the Analytical Quality Control Services provided by the Marine Environmental Studies Laboratory of IAEA;

(d) Consideration by all Governments and international organizations that have expertise in the field of clean-up and disposal of radioactive contaminants to give appropriate assistance as may be requested for remedial purposes in adversely affected areas.

(*) Note. This subparagraph has to read in conjunction with the report of the Intergovernmental Conference (UNEP(OCA)/LBA/IG.2/6).