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Second Intergovernmental Consultation
concerning a Draft Protocol for the
Protection of the Mediterranean Sea
against Pollution from Land-Based Sources

Venice, 17 - 21 October 1977

Revised Technical Annexes recommended for inclusion in the
draft Protocol for the Protection of the Mediterranean Sea
against Pollution from Land-Based Sources

Introduction

The technical annexes attached hereto relate directly to principles 4, 5 and 7 of the "Principles recommended for inclusion in the draft Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources" (UNEP/IG.9/3). As agreed at the Intergovernmental Consultation concerning a draft Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Athens, February 1977, the annexes were submitted to the meeting of experts on pollutants from land-based sources, Geneva, 19 - 24 September 1977. After detailed discussion, the group of experts recommended the annexes as attached herewith for inclusion in the draft Protocol. The report of the September meeting, which highlights the comments made by the participants with regard to the annexes, is before this consultation as document UNEP/IG.9/INF.4.

Before the technical annexes were submitted to the September meeting of experts, they were revised in light of the comments made by the Governments of the Mediterranean Coastal States and the recommendations made by the WHO/UNEP Workshop on Coastal Water Pollution Control, Athens, 27 June - 1 July 1977, and by the WHO consultations on Radioactivity Releases into the Sea, Monaco, 27 - 29 July 1977.

ANNEX I

A. The following substances or groups of substances are listed 1/ for the purposes of principle 4 of the Protocol. They have been selected mainly on the basis of their

- toxicity
- persistence
- bioaccumulation.

1. Organohalogen compounds and substances which may form such compounds in the marine environment. 2/
2. Organophosphorus compounds and substances which may form such compounds in the marine environment. 2/
3. Organotin compounds and substances which may form such compounds in the marine environment. 2/
4. Mercury and mercury compounds.
5. Cadmium and cadmium compounds.
6. Persistent mineral oils and persistent hydrocarbons derived from petroleum origin, in particular used lubricating oils.
7. Persistent synthetic materials which may float, sink or remain in suspension and which may interfere with any legitimate use of the sea.
8. Substances which possess proven [or suspected] carcinogenic, teratogenic or mutagenic properties in or through the marine environment.
- [9. Radioactive wastes and other radioactive matter to be defined by the IAEA.]

B. This Annex applies to all wastes from land-based sources, including municipal and industrial discharges as well as any other point and non-point sources. The present Annex does not apply to discharges which contain the substances referred to in section A as trace contaminants only. The discharge of such wastes shall be subject to the provisions of Annexes II and III as appropriate.

1/ Not in order of priority.

2/ With the exception of those which are biologically harmless or which are rapidly converted into biologically harmless substances.

ANNEX II

A. The following substances, families and groups of substances, or sources of pollution are listed hereunder for the purposes of principle 5 of the Protocol. The substances, families and groups of substances, or sources of pollution have been selected mainly on the basis of criteria used for Annex I, taking into account the fact that they are generally less noxious or are more readily rendered harmless by natural processes and therefore generally affect more limited coastal areas.

1. The following elements and their compounds:

1. zinc	6. selenium	11. tin	16. vanadium
2. copper	7. arsenic	12. barium	17. cobalt
3. nickel	8. antimony	13. beryllium	18. thalium
4. chromium	9. molybdenum	14. boron	19. tellurium
5. lead	10. titanium	15. uranium	20. silver

2. Biocides and their derivatives not covered in Annex I.

3. Organosilicon compounds and substances which may form such compounds in the marine environment excluding those which are biologically harmless or are rapidly converted into harmless substances.

4. Crude oils and hydrocarbons derived from petroleum origin and mixtures containing any of these other than those listed in Annex I.

5. Cyanides and fluorides.

6. Non-biodegradable detergents and other surface-active substances.

[7. Inorganic compounds of phosphorus and elemental phosphorus.]

8. Pathogenic micro-organisms.

9. Thermal pollution.

10. Radioactive wastes and other radioactive matter, other than those covered in Annex I.

11. Substances which have a deleterious effect on the taste and/or smell of the products for human consumption derived from the aquatic environment, and compounds liable to give rise to such substances in the marine environment.

[12. Substances which have an adverse effect on the oxygen balance.]

B. This Annex applies to all wastes from land-based sources, including municipal and industrial discharges as well as any other point and non-point sources. The present Annex does not apply to discharges which contain the substances referred to in section A as trace contaminants only. The discharge of such wastes shall be subject to the provisions of Annex III as appropriate.

C. The control and strict limitation of the discharge of substances referred to in section A should be implemented in accordance with the criteria set out in Annex III.

ANNEX III

According to principle 5 of the Protocol, the factors to be considered in establishing criteria governing the issue of an authorization for the discharge of wastes containing substances referred to in Annex II include:

A. Characteristics and composition of the waste

A general characterization of wastes provides for their classification and assessment of potentially harmful properties:

1. Type and size of waste source (industrial process, etc.).
2. Type of waste (origin, average composition).
3. Form of waste (solid, liquid, sludge, slurry).
4. Total amount (volume, e.g. per year).
5. Discharge pattern (continuous, intermittent, seasonal variations, etc.).
6. Concentrations with respect to major constituents, substances listed in Annex I, substances listed in Annex II, and other substances as appropriate.
7. Physical, chemical and biochemical properties of the waste.

B. Characteristics of potentially harmful waste constituents

The potential harmfulness of specific waste constituents requires individual evaluation in the light of actual concentrations and amounts discharged:

1. Persistence (physical, chemical, biological) in the marine environment.
2. Toxicity and other harmful effects.
3. Accumulation in biological materials or sediments.
4. Biochemical transformation rendering harmful compounds.
5. Adverse effects on the oxygen balance.
6. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other sea-water constituents which may produce harmful biological or other effects on any of the uses listed in section E below.

C. Characteristics of discharge site and receiving water

The local conditions of the water into which the wastes are discharged require consideration with regard to the following:

1. Hydrographic, meteorological, geological and topographical conditions of the coastal area.

2. Location of the waste discharge (outfall, canal, outlet, etc.) and its location in relation to other areas (e.g. amenity areas, spawning, nursery and fishing areas, shellfish grounds), and other discharges.
3. Initial dilution achieved at the point of waste release.
4. Dispersion characteristics (e.g. effects of currents, tides and wind on horizontal transport and vertical mixing).
5. Water characteristics with respect to physical, chemical, biochemical, biological and ecological conditions in the discharge area.
6. Capacity of the receiving water to absorb waste discharges without undue effects.

D. Availability of waste treatment technology

The method of waste treatment and discharge should be selected taking into account the availability and the possible implementation of various treatment, re-use or elimination methods of industrial and domestic wastes and waste waters on land.

E. Potential impairment of sea-water uses

An assessment of the possible impact of waste discharges on the following uses of the sea and the coastal waters is required:

1. Effects on human health through pollution impact on:
 - (a) edible marine organisms;
 - (b) bathing waters;
 - (c) aesthetics.
2. Effects on marine ecosystems, in particular living resources, endangered species and critical habitats.
3. Effects on other legitimate uses of the sea.

ANNEX IV

[A. "New installation" for the purposes of principle 7 of the Protocol means any industrial, commercial, residential and tourist construction or site,

(i) for which the building contract is placed or, in the absence of a building contract, the construction or site works are commenced after the expiry of ... year(s) from the entry into force of the Protocol; or

(ii) which is completed three years or more after that date.

B. Extensions or conversions of existing installations shall be considered as new installations if the resulting increase in the waste discharge exceeds 25 per cent of the previous waste load.]