



**Protocol for the
Protection of the Marine Environment
against Pollution from Land-Based Sources**

21 February 1990

**REGIONAL ORGANIZATION FOR THE PROTECTION
OF THE MARINE ENVIRONMENT
(ROPME)**

KUWAIT

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THE CONTRACTING STATES

BEING PARTIES to the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution;

RECOGNIZING the danger posed to the marine environment and to human health by pollution from land-based sources and the serious problems resulting there from in coastal waters of many Contracting States, principally due to the release of untreated, insufficiently treated and/or inadequately disposed of domestic or industrial discharges;

NOTING that existing measures to prevent, abate and combat pollution caused by discharges from land-based sources need to be strengthened on a national and a regional basis;

BEING AWARE of Articles 194, 207, 212 and 213 of the United Nations Convention on the Law of the Sea (1982); and the Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-Based Sources (1985); and

DESIROUS to strengthen the implementation of Article III, paragraph (b) and Article VI of the Convention;

HAVE AGREED as follows: *

* A Meeting of the Plenipotentiaries was held in Kuwait on 21 February 1990 for signing the Protocol concerning the Protection of the Marine Environment against Pollution from Land-Based Sources.

Article I

Definitions

For the purpose of this Protocol:

1. "Combined Treatment" means common treatment of industrial effluents along with domestic sewage;
2. "Competent State Authority" means the Authority designated by the Contracting State for the purpose of this Protocol;
3. "Contracting State" means any State which has be-come a party to this Protocol ;
4. "Convention" means the Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution;
5. "Council" means the organ of the Organization as referred to in subparagraph (i) of paragraph (b) of Article XVI of the Convention;
6. "Freshwater Limit" means the place in watercourses where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea-water;
7. Joint Pretreatment/Treatment" means common pretreatment/treatment of the effluents from more than one industrial source;
8. "Land-Based Sources" means municipal, industrial or agricultural sources, both fixed and mobile on land, discharges from which reach the Marine Environment, as outlined in Article III of this Protocol;
9. "Marine Environment" means the Protocol Area as defined in Article II of this Protocol;
9. "Organization" means the Regional Organization for the Protection of the Marine Environment established in accordance with Article XVI of the Convention;
11. "Pollution" means "Marine Pollution" as defined in paragraph (a) of Article I of the Convention;

Article II

Area of Application

The area to which this Protocol applies (hereinafter referred to as the "Protocol Area") shall be the Sea Area as defined in Article II, paragraph (a) of the Convention, together with the waters on the landward side of the baselines from which the breadth of the territorial sea of the Contracting States is measured and extending, in the case of watercourses, up to the freshwater limit and including intertidal zones and salt-water marshes communicating with the sea.

Article III

Sources of Pollution

This Protocol shall apply to discharges reaching the Protocol Area from land-based sources within the territories of the Contracting States, in particular:

- (a) from outfalls and pipelines discharging into the sea;
- (b) through rivers, canals or other watercourses, including underground watercourses;
- (c) from fixed or mobile offshore facilities serving purposes other than exploration and exploitation of the sea bed, its subsoil and the continental shelf; and
- (d) from any other land-based sources situated within the territories of the Contracting States, whether through water, through the atmosphere or directly from the coast.

Article IV

Source Control

1. The Contracting States undertake to implement the action programmes based on source control as outlined in Annex I to this Protocol. To this end, they shall develop and implement, jointly or individually, as appropriate, the necessary programmes and measures.
2. The programmes and measures and the timetables for their implementation aimed at reducing pollution from land-based sources, shall be fixed by the Contracting States and periodically reviewed and revised, if necessary every two years, in accordance with the provisions of Article XIV of this Protocol.

Article V

Joint and/or Combined Effluent Treatment

1. The Contracting States in their endeavour not to inhibit the development of new industries, and especially that of small industrial operations, and recognizing the economic and technical difficulties often encountered by such operations in properly treating their effluents individually, undertake to implement, to the extent possible, industrial location planning programmes as outlined in Annex II to this Protocol. To this end, they shall develop and implement, jointly and/or individually, as appropriate, the necessary programmes and measures.
2. The Regional guidelines and criteria along with programmes and measures and the time-tables for their implementation, aimed at reducing pollution from land-based sources through joint and/or combined effluent treatment, shall be fixed by the Contracting States and periodically reviewed and revised, if necessary every two years, in accordance with the provisions of Article XIV of this Protocol.

Article VI

Regional and Local Regulations/Permits for Release of Wastes

1. As outlined in Annex III to this Protocol, the Contracting States shall progressively develop and adopt, in co-operation with competent Regional and International organizations as appropriate:
 - (a) Regional guidelines, standards or criteria, as appropriate, for the quality of seawater used for specific purposes that is necessary for the protection of human health, living resources and ecosystems;
 - (b) Regional regulations for the waste discharge and/ or degree of treatment for all significant types of land-based sources;
 - (c) Stricter local regulations for waste discharge and/or degree of treatment for specific sources based on local pollution problems and desirable water usage considerations.

Stricter regulations for specific sources serve the purpose of preserving the quality of seawater required for the intended use. In developing such regulations the local ecological, geographical and physical characteristics, as well as, the level of existing pollution in the Marine Environment shall be taken into consideration.

2. The programmes for the implementation of the above measures shall be adopted and shall take into account, for their progressive application, the cost of measures involved, the capacity to modify existing installations, the economic capacity of the Contracting States and their need for sustainable development.
3. Polluters shall be required to obtain a permit to discharge from the Competent State Authorities. Such permits shall allow for review and modification of discharge conditions reflecting the periodic update of regulations.
4. Guidelines, standards or criteria, as well as, regulations, programmes and measures shall be developed and adopted in accordance with the provisions of Article XIV of this Protocol and periodically updated, if necessary every two years, to reflect the increasing information through the monitoring programme described in Article VII of this Protocol, the changes in the industrial and other human activities and possible advances in science and the pollution control technologies.

Article VII

Monitoring and Data Management

1. The Contracting States, within the framework of the provisions of Article X of the Convention, shall carry out monitoring activities, if necessary in co-operation with the competent Regional and International organizations, in order to:
 - a) collect data on natural conditions of the Protocol Area as regards its physical, biological and chemical characteristics;
 - b) collect data on inputs of substances or energy that cause or potentially cause pollution from land-based sources, including information on the distribution of sources and the quantities of pollutants introduced to the Protocol Area;
 - c) assess systematically the levels of pollution within their internal and territorial waters, in particular with regard to the substances that may have a potential significant impact on the Marine Environment. For the selection of the sampling locations and substances to be measured, information available, *inter alia*, from source inventories, discharge outfalls and marine environment characteristics shall be considered; and
 - d) evaluate the effectiveness of measures taken under this Protocol in meeting the environmental objectives.
2. Contracting States shall collaborate jointly or collectively to establish comparable monitoring programmes, as well as analytical quality control programmes and to promote data storage, retrieval and exchange.

Article VIII

Environmental Impact Assessment

1. The Contracting States shall require on priority basis an assessment of the potential environmental impacts during the planning and implementation stages of selected development projects within their territories, particularly in the coastal areas, which may cause significant risks of pollution from land-based sources to the Protocol Area, in order to ensure that appropriate measures are taken to prevent or mitigate such risks.

2. The Contracting States shall develop, with the assistance of the Organization, technical and other guidelines concerning the assessment of the potential environmental impacts of development projects referred to in paragraph 1, including possible transboundary effects. The assessment should, where appropriate, contain *inter alia* the following:
 - (a) A description of the geographical location of the activities to be carried out;
 - (b) A description of the initial ecological state of the marine environment and the coastal area which may be affected by the activities;
 - (c) An indication of the nature, aims and scope of the proposed activities;
 - (d) A description of the methods, installations and other means to be used;
 - (e) A description of the foreseeable direct and indirect long-term and short-term effects of the activities on the Marine Environment, including fauna, flora and the ecological balance;
 - (f) A statement setting out the measures proposed to reduce to the minimum the risk of pollution by carrying out the activities and, in addition, possible process and pollution abatement alternatives to such measures;
 - (g) An indication of the measures to be taken for the protection of the Marine Environment from pollution during and, as appropriate, at the end of the proposed activities;
 - (h) Definition of commitments to ongoing environmental management and monitoring;
 - (i) Cost-benefit analysis as appropriate;
 - (j) A brief summary of the assessment.

3. The implementation of the selected projects referred to in paragraph 1 should be made subject to a prior written authorisation from the Competent State Authorities which takes fully into account the findings of the environmental impact assessment.

4. The Contracting States shall co-operate with the Organization to develop procedures for the dissemination to all Contracting States of the reports on the results of such assessment with a view to enable the Contracting States which may be affected by the environmental impacts of the development projects to consult with the Contracting State concerned.

Article IX

Scientific and Technological Co-operation

The Contracting States, in conformity with Article X of the Convention, shall co-operate in scientific and technological fields related to pollution from land-based sources, particularly research on inputs, pathways and effects of pollutants and on the development of new methods for their treatment, reduction or elimination. To this end, the Contracting States shall, in particular, endeavour to:

- (a) exchange scientific and technical information;
- (b) co-ordinate their research programmes of common nature.

Article X

Scientific, Technical and Other Assistance

1. The Contracting States shall, directly or with the assistance of the Organization or competent Regional and International organizations, co-operate with a view to formulate and implement programmes of assistance, particularly in the fields of science, education and technology, for the prevention, reduction and control of pollution from land-based sources.
2. Such technical assistance shall include, in particular, the training of scientific and technical personnel, as well as the acquisition, utilization, maintenance and production of appropriate equipment.

Article XI

Watercourses shared by States

1. If discharges from a watercourse which flows through the territories of Contracting States are likely to cause pollution of the Protocol Area, the Contracting States in question, in accordance with the provisions of this Protocol in so far as each of them is concerned, are called upon to co-operate with a view to ensuring its full application.

2. A Contracting State shall not be responsible for any pollution originating on the territory of a non-Contracting State. However, the Contracting State shall endeavour to co-operate with such State so as to make possible full application of the Protocol.

Article XII

Exchange of Information

1. The Contracting States shall inform one another directly or through the Organization of measures taken, of results achieved and, if the case arises, of difficulties encountered in the application of this Protocol. Procedures for the collection and submission of such information shall be determined by the Council.

2. Such information shall include *inter alia*:

- (a) Relevant statistical data in accordance with Articles VI and VII of this Protocol;
- (b) Data resulting from monitoring as provided for in Article VII of this Protocol;
- (c) Quantities of pollutants discharged or emitted from their territories;
- (d) Measures taken in accordance with Articles IV, V and VI of this Protocol.

Article XIII

Responsibility and Liability for Damage

1. Contracting States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the Marine Environment by natural or juridical persons under their jurisdiction.
2. Contracting States shall formulate and adopt appropriate procedures for the determination of liability for damage resulting from pollution from land-based sources.

Article XIV

Institutional Arrangements

The Council, in accordance with Article XVII of the Convention, shall be responsible for keeping under review the implementation of this Protocol. To this end, the Council shall, *inter alia*:

- (a) consider the efficacy of the measures adopted and the advisability of adopting any other measures, in particular in the form of annexes;
- (b) revise and amend any annex to this Protocol, as appropriate;
- (c) formulate, adopt and review programmes and measures in accordance with Articles IV, V, VI, VII, IX and X of this Protocol;
- (d) adopt Regional guidelines, standards or criteria in accordance with Articles IV, V and VI of this Protocol;
- (e) formulate procedures for exchange of information in accordance with Articles VIII and XII of this Protocol;
- (f) consider information submitted by the Contracting States under Articles VIII and XII of this Protocol;
- (g) discharge such other functions as appropriate for the application of this Protocol; and
- (h) establish any such institutional mechanism as deemed necessary for the achievement of the objectives of this Protocol.

Article XV

General Provisions

1. The provisions of the Convention relating to any Protocol shall apply to this Protocol.
2. Procedures for amendments to Protocols and their Annexes adopted in accordance with Articles XX and XXI of the Convention shall apply to this Protocol.
3. The Rules of Procedures and Financial rules adopted pursuant to Article XXII of the Convention, and amendments thereto, shall apply to this Protocol.
4. The Annexes form an integral part of this Protocol unless expressly provided otherwise thereto.

Article XVI

Final Provisions

1. This Protocol shall be open for signature in the State of Kuwait from 21 February to 21 May 1990 by any State which is party to the Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution.
2. This Protocol shall be subject to ratification, acceptance, approval or accession by the States parties to the Convention. Instruments of ratification, acceptance, approval or accession shall be deposited with the Government of Kuwait which shall assume the functions of the Depository.

3. This Protocol shall enter into force on the ninetieth day following the date of deposit of at least five instruments of ratification, acceptance or approval of, or accession to this Protocol by the States as referred to in paragraph 1 of this Article.

IN WITNESS WHEREOF the undersigned Plenipotentiaries, being duly authorized by their respective Governments, have signed this Protocol.

DONE AT KUWAIT this twenty-first day of February, in the year one thousand nine hundred ninety in the Arabic, English and Persian languages, the texts being equally authentic.

ANNEXES

Annex I

Pollution Abatement through Source Control

With regard to the issue of pollution abatement through source control referred to in Article IV of this Protocol, consideration should be given to the control and progressive replacement of products, installations and industrial or other processes causing significant pollution to the Marine Environment. In this regard, particular attention will be given, but not limited, to the following factors:

- a) Curtailment and/or regulation of import, transportation, manufacturing or processing of certain harmful substances.
- b) Change of raw materials.
- c) Change of manufacturing processes.
- d) Good operating and housekeeping practices.
- e) Segregation of waste streams and minimization of pollutant dilution prior to treatment.
- f) Recovery, re-use and recycling.

The programmes, measures and the timetables required for the implementation of source control will be developed and priorities allocated on the basis of the results of on-going assessment studies.

Problem areas of Regional interest, where cost effective measures can be implemented, will receive attention for the purpose of establishing general management schemes. Such areas are, for example, the collection, treatment, and proper disposal of spent lubricating oils, blood and paunch from slaughterhouses, the control of fuel combustion processes and the implementation of source control in selected processes within large industries.

Annex II

Promotion of joint and/or combined Effluent Treatment

Without undue prejudice to the multifaceted constraints that often govern the selection of the location of new industries, a programme will be undertaken, as referred to in , Article VI of this Protocol, to promote:

- a) agglomeration of industries in a way that enhances the possibility of joint effluent pretreatment and/or treatment, as the need may be;
- b) location within the limits of city sewer systems of certain types of industry so as to enhance combined treatment of industrial and domestic wastes.

Promotion of joint and/or combined effluent treatment, if properly planned, could result in greatly reduced treatment, monitoring and enforcement costs as well as in increased treatment reliabilities. To this end, Regional guidelines and criteria will be developed dealing with topics of common interest, such as:

- the compatibility of effluent from different, sources;
- pretreatment requirements prior to discharge into domestic and/or industrial sewer systems;
- cost sharing for the construction and operation of treatment plants.

Such guidelines and criteria will assist Contracting States in developing their own specific programmes and measures. While initial plans may deal with the location problem of new industries, the end objective will be the progressive attraction of existing selected small industries as the infrastructure and facilities are developed in the designated areas.

Annex III

Guidelines, Regulations and Permits for the Release of Wastes

1. With a view to guidelines, standards or criteria, as well as to regulations, programmes, measures, and discharge permits for release of wastes referred to in Article VI of this Protocol, particular attention will be given, *inter alia*, to the following factors:
 - a) Regional regulations for the waste discharge and/or degree of treatment should be specific for each kind of source and, if necessary, may be different between existing and new sources. Their development should be based on treatment technology, cost and nature of pollutants considerations, as well as on an overview of the state of environment in the Protocol Area.
 - b) Regional guidelines and, as appropriate, standards or criteria should be developed for the quality of sea water used for specific purposes.
 - c) For areas where the water quality standards for the intended use cannot be achieved through the implementation of the above Regional regulations, stricter local regulations for the waste discharge and/or degree of treatment should be developed. Such local regulations will apply to the specific sources in the areas under consideration.
 - d) Regional regulations along with the programmes, measures and the timetables required for the implementation should be developed on a priority basis, *inter alia*, for the following types of wastes:
 - i) Ballast water, slops, bilges and other oily water discharges generated by land-based reception facilities and ports through loading and repair operations.
 - ii) Brine water and mud discharges from oil and gas drilling and extraction activities from land-based sources.
 - iii) Oily and toxic sludges from crude oil and refined products storage facilities.
 - iv) Effluents and emissions from petroleum refineries.

- v) Effluents and emissions from petrochemical and fertilizer plants.
 - vi) Toxic effluents and emissions from industries such as chlor-alkali, primary aluminium production, pesticides, insecticides, and lead recovery plants.
 - vii) Emissions from natural gas flaring and desulfurization plants.
 - viii) Dust emissions from major industrial sources, such as cement, lime, asphalt and concrete plants.
 - ix) Effluents and emissions from power and de-salination plants.
 - x) Wastes generated from coastal development activities which may have a significant impact on the Marine Environment.
 - xi) Sewage and solid wastes.
- e) As the diagram 1 attached to this Annex illustrates, pollution abatement is an iterative process. Pollution abatement action will start from high priority measures, which will be selected to be pragmatic, cost-effective, while addressing the most critical environmental problems as perceived today. The monitoring programme as specified in Article VII of this Protocol, will be providing the necessary feed- back for the required corrective action by yielding the database for assessing the effectiveness of implemented programmes, the current state of the environment and its trends. Corrective action, whenever required, will be taken through periodic updates of the regulations, programmes and measures and review of the conditions in discharge permits, in accordance with the provisions of Articles IV and VI of this Protocol.
- 2 Provisions for establishing criteria governing the issue of permits for the discharging of waste matter in the Marine Environment, should also take into consideration *inter alia* the following:

a) Characteristics and Composition of Waste

- i) Type and size of waste source, e.g. industrial process.
- ii) Type of waste (origin, average composition).
- iii) Form of waste (solid, liquid, sludge, slurry).
- iv) Total amount (volume discharged, e.g. per year).
- v) Discharge pattern continuous, intermittent, seasonally variable, etc.)
- vi) Concentrations with respect to major constituents.
- vii) Properties: physical, e.g. solubility and density; chemical and biochemical, e.g. oxygen Demand, nutrients; and biological, e.g. presence of viruses, bacteria, yeast, parasites.
- viii) Toxicity
- ix) Persistence: physical, chemical and biological.
- x) Accumulation and biotransformation in biological materials or sediments,
- xi) Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other dissolved organic and inorganic materials.
- xii) Probability of producing taints or other changes reducing marketability of resources, e.g. fish, shellfish, etc.

b) Characteristics of Discharge Site and Receiving Marine Environment

- i) Hydrographic, meteorological, geological, biological and topographical characteristics of the discharge site.

- ii) Location and type of the discharge (outfall, canal, outlet, etc.) and its relation to other areas, e.g. amenity areas, spawning, nursery and fishing areas, shellfish grounds and exploitable resources.
- iii) Rate of disposal per specific period, e.g. quantity per day, per week and per month.
- iv) Initial dilution achieved at the point of discharge into the receiving marine environment.
- v) Methods of packaging and containment, if any.
- vi) Dispersion characteristics such as effects of 22 currents, tides and wind on horizontal transport and vertical mixing.
- vii) Water characteristics, e.g. temperature, pH, salinity, stratification, oxygen indices of pollution -dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD) -nitrogen present in organic and mineral form including ammonia, suspended matter, other nutrients and productivity.
- viii) Existence and effects of other discharges which have been made in the discharge site, e.g. heavy metal background levels and organic carbon content.

c) Availability of Waste Technologies

The methods of waste reduction and discharge for industrial effluents as well as domestic sewage should be selected taking into account the availability and feasibility of:

- i) Alternative treatment processes;
- ii) Re-use or elimination methods;
- iii) On-Land disposal alternative; and
- iv) Appropriate low-waste technologies.

d) General Considerations and Conditions

- i) Possible effects on amenities, e.g. presence of floating or stranded materials, turbidity, objection- able odour, discoloration and foaming.
- ii) Effects on human health through pollution impact on: Edible marine organisms; bathing waters; aesthetics; etc.
- iii) Effects on marine ecosystems, in particular living resources, endangered species and critical habitats.
- iv) Possible effects on other uses of the sea, e.g. impairment of water quality for industrial use, underwater corrosion of structure, interference with ship operations from floating materials, interference with fishing or navigation through deposit of waste or solid objects on the sea floor and protection of areas of special importance for scientific or conservation's purposes.

Establish Water Quality Criteria, Guidelines and Standards for Various Water Uses

Based on Current Information and Perceived State of Environment Develop Priority Action programmes and Measures to Implement Action programmes

Water Quality Goals Achieved Monitoring

Modify Regional and/or Local Discharge Regulations as required

Develop Action Programmes and Measures

Diagram 1. Environmental Management Scheme

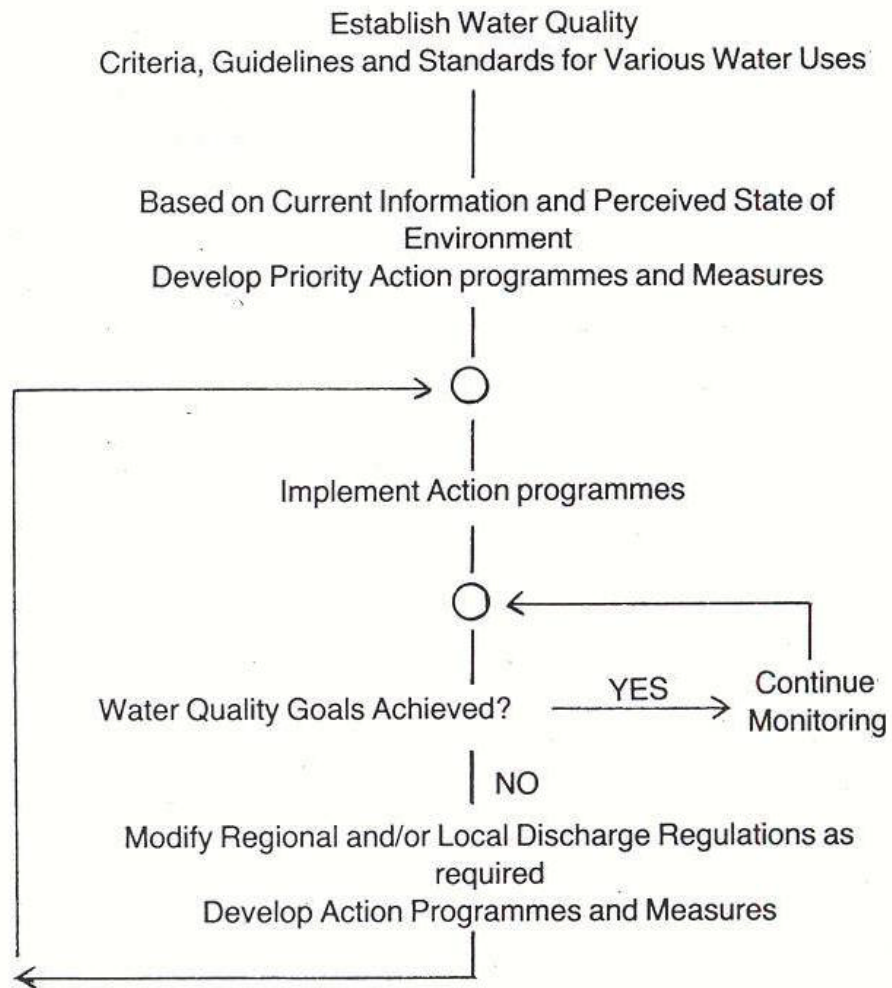


Diagram 1. Environmental Management Scheme