

## **PARCOM DECISION 85/1**

### **PROGRAMMES AND MEASURES OF 31 DECEMBER 1985 ON LIMIT VALUES AND QUALITY OBJECTIVES FOR MERCURY DISCHARGES BY SECTORS OTHER THAN THE CHLOR-ALKALI ELECTROLYSIS INDUSTRY**

THE COMMISSION ESTABLISHED BY THE CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LAND-BASED SOURCES, SIGNED AT PARIS ON 4 JUNE 1974,

having regard to the provisions of the Convention, and in particular to Article 18.3 thereof,

HAS ADOPTED THE FOLLOWING PROGRAMMES AND MEASURES:-

#### Article 1

1. Every discharge of mercury by industrial sectors other than the chlor-alkali electrolysis industry into the maritime area as defined in Article 3a of the Convention, or into watercourses that affect the maritime area, shall require prior authorisation by the competent authority of the Contracting Party concerned. Such authorisations shall lay down emission standards for the discharge and shall be reviewed periodically.
2. The emission standards must not exceed the limit values as set out in paragraph 3 below, except where a Contracting Party applies quality objectives in conformity with Annexes II and IV.
3. The limit values, the time limits by which they must be complied with and the monitoring procedure for discharges are laid down in Annex I. The limit values shall normally apply at the point where waste waters containing mercury leave the industrial plant.

When waste waters containing mercury are treated outside the industrial plant at a treatment plant intended for the removal of mercury, the Contracting Party concerned may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

4. Without prejudice to their obligations arising from paragraphs 1, 2 and 3 and to the provisions of the Convention, the Contracting Parties may grant authorisations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the prevention and elimination of pollution.

Whatever method it adopts, where for technical reasons the intended measures do not correspond to the best technical means available, the Contracting Party shall provide the Commission with evidence in support of these reasons before any authorisation. The Commission shall, at its next meeting, examine the information provided.

5. For the purpose of these programmes and measures, "new plant" means:
- an industrial plant which has become operational after the date of adoption of these programmes and measures,
  - an existing industrial plant whose mercury-handling capacity has been substantially increased since the date of adoption of these programmes and measures.
6. The reference method of analysis to be used in determining the presence of mercury is given in Annex III, paragraph 1. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III, paragraph 1. The accuracy required in the measurement of effluent flow is given in Annex III, paragraph 2.

#### Article 2

1. The Contracting Parties shall draw up specific programmes for mercury discharges by multiple sources which are not industrial plants and for which the emission standards referred to in Article 1 cannot be applied in practice.
2. The purposes of these specific programmes shall be to avoid or eliminate pollution. They shall include the most appropriate measures and techniques for the replacement, retention and recycling of mercury.
3. The specific programmes shall be in operation as soon as possible and in any case not later than 1 July 1989 and shall be communicated to the Commission.

#### Article 3

The contracting Parties concerned shall monitor, within the area covered by the Convention, the aquatic environment affected by discharges. In the case of discharges affecting the waters of more than one Contracting Party, the Contracting Parties concerned shall cooperate with a view to harmonising monitoring procedures.

#### Article 4

1. The Commission shall at four-yearly intervals make a comparative assessment of the implementation of these programmes and measures by Contracting Parties on the basis of information supplied to it by them pursuant to Article 1 of the Convention. The information concerned shall, in particular, comprise:
  - details of authorisations laying down emission standards for discharges of mercury.
  - the results of information collected or inventories drawn up concerning mercury discharged into the maritime area, and into watercourses that affect the maritime area, referred to in Article 1, paragraph 1,
  - information laid down in Annex IV, paragraph 2 for those Contracting

Parties applying the quality objectives,

- the results of the monitoring of the aquatic environment carried out in accordance with Article 3. Where appropriate, these should be submitted within the framework of the Joint Monitoring Programme.

2. In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of mercury in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall consider appropriate proposals with the aim of reinforcing, if necessary, the limit values and the quality objectives or of establishing additional limit values and additional quality objectives.

#### Article 5

1. The Contracting Parties shall implement these programmes and measures by 1 January 1986.

2. Contracting Parties shall communicate to the Commission the text of the provisions of internal law which they adopt in the field governed by these programmes and measures.

#### ANNEX 1

#### LIMIT VALUES, TIME LIMITS BY WHICH THEY MUST BE COMPLIED WITH, AND THE PROCEDURE FOR MONITORING DISCHARGES

1. The limit values and the limits for the industrial sectors concerned are set out together in the table below:

Limit value which must be  
complied with as from:

Industrial sector (1)	Unit of Measurement		
	1 July 1986	1 July 1989	
1. Chemical industries using mercury catalysts:			
a. in the production of vinyl chloride	0,1 0,2	0,05 0,1	mg/1 effluent g/t vinyl chloride production capacity
b. in other processes	0,1 10	0,05 5	mg/1 effluent g/kg mercury processed
2. Manufacture of mercury catalysts used in the production of vinyl chloride	0,1 1,4	0,05 0,7	mg/1 effluent g/kg mercury processed

3.	Manufacture of organic and non-organic mercury compounds (except for products referred to in paragraph 2)	0,1	0,05	mg/1 effluent
		0,1	0,05	g/kg mercury processed
4.	Manufacture of primary batteries containing mercury	0,1	0,05	mg/1 effluent
		0,05	0,03	g/kg mercury processed
5.	Non-ferrous metal industry(2)			
5.1	Mercury recovery plants	0,1	0,05	mg/1 effluent
5.2	Extraction and refining of non-ferrous metals	0,1	0,05	mg/1 effluent
6	Plants for the treatment of toxic wastes containing mercury	0,1	0,05	mg/1 effluent

Notes:

(1) Limit values for industrial sectors other than the chlor-alkali electrolysis industry which are not mentioned in this table, such as the paper and steel industries or coal-fired power stations will, if necessary, be fixed by the Commission at a later stage. Meanwhile, the Contracting Parties shall fix emission standards for mercury discharges autonomously in accordance with Article 4.2 of the Convention. Such standards shall take into account the best technical means available and must not be less stringent than the most nearly comparable limit value in this Annex.

(2) On the basis of experience gained in the implementation of these programmes and measures, and pursuant to Article 4.2, the Commission shall in due course consider proposals for fixing more restrictive limit values.

2. Limit values expressed as concentrations which in principle must not be exceeded are given in the above table for the industrial sectors 1 to 4. In no instance may limit values expressed as maximum concentrations be greater than those expressed as maximum quantities divided by water requirements per kilogram of mercury handled or per tonne of installed vinyl chloride production capacity.

However, because the concentration of mercury in effluents depends on the volume of water involved, which differs for different processes and plants, the limit values, expressed in terms of the quantity of mercury discharged in relation to the quantity of mercury handled or to the installed vinyl chloride production capacity, given in the above table, must be complied with in all cases.

3. The daily average limit values are twice the corresponding monthly average limit values given in the table.

4. A monitoring procedure must be instituted to check whether the discharges comply with the emission standards which have been fixed in accordance with the limit values laid down in this Annex.

This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and, where appropriate, the quantity of mercury handled.

Should the quantity of mercury handled be impossible to determine, the monitoring procedure may be based on the quantity of mercury that may be used in the light of the production capacity on which the authorisation was based.

5. A sample representative of the discharge over a period of 24 hours shall be taken. The quantity of mercury discharged over a month must be calculated on the basis of the daily quantities of mercury discharged.

However, a simplified monitoring procedure may be instituted in the case of industrial plants which do not discharge more than 7,5 kilograms of mercury per annum.

NB. The limit values given in the table correspond to a monthly average concentration or to a maximum monthly load.

The amounts of mercury discharged are expressed as a function of the amount of mercury used or handled by the industrial plant over the same period or as a function of the installed vinyl chloride production capacity.

## ANNEX II

### QUALITY OBJECTIVES

For those Contracting Parties applying quality objectives, emission standards shall be fixed so that the appropriate quality objective or objectives from among those listed below is or are complied with in the area affected by discharges of mercury. The competent authority shall determine the area affected in each case and shall select from among the quality objectives listed in paragraph 1 below the objective or objectives that it deems appropriate having regard to the intended use of the area affected taking account of the fact that the purpose of these programmes and measures is to prevent and eliminate all pollution.

1. In order to prevent and eliminate pollution as defined in Article 1 of the Convention and pursuant to Article 4 of the said Convention, the following quality objectives are set:

1.1 The concentration of mercury in a representative sample of fish flesh chosen as an indicator must not exceed 0,3 mg/kg wet fish.

1.2 The concentration of mercury in solution in estuary waters up to the freshwater limit affected by discharges must not exceed 0,5 µg/l as the arithmetic mean of the results obtained over a year.

1.3 The concentration of mercury in solution in the following waters\* must not exceed 0,3 µg/l as the arithmetic mean of the results obtained over a year:

- (i) territorial waters
- (ii) waters, other than estuary waters, on the landward side of the base line from which the breadth of the territorial sea is measured and extending in the case of watercourses up to the freshwater limit.

2 The concentration of mercury in sediments or in shellfish (mollusca and crustacea) must not increase significantly with time.

3. Where several quality objectives are applied to waters in an area, the quality of the waters must be sufficient to meet each of them.

4. The numerical values of the quality objectives specified in paragraphs 1.2 and 1.3 may, as an exception and where this is necessary for technical reasons, be multiplied by 1,5 until 1 July 1989.

Note:

\* A quality objective for the high seas is not fixed on the understanding that the quality objective for territorial waters and other waters will protect the high seas from pollution.

ANNEX III

#### REFERENCE METHOD OF MEASUREMENT

1. The reference method of analysis used for determining the mercury content of waters, the flesh of fish, sediments and shellfish (mollusca and crustacea) is flameless atomic absorption spectrophotometry after suitable pre-treatment of the sample which takes account in particular of pre-oxidation of the mercury and of successive reduction of the mercury-ions Hg(II).

The limits of detection must be such that the mercury concentration can be measured to an accuracy of +/- 30% at the following concentrations:

- in the case of discharges, one-tenth of the maximum permitted concentration of mercury specified in the authorisation;
  - in the case of surface water, one-tenth of the mercury concentration specified in the quality objective;
  - in the case of the flesh of fish and shellfish (mollusca and crustacea), one-tenth of the mercury concentration specified in the quality objective;
  - in the case of sediments, one-tenth of the mercury concentration in the sample or 0,05 mg/kg dry weight whichever value is the greater.
2. Flow measurement must be carried out to an accuracy of +/- 20%.

## MONITORING PROCEDURE FOR QUALITY OBJECTIVES

1. For each authorisation the competent authority shall specify the restrictions, monitoring procedure and time limits for ensuring compliance with the quality objective or objectives concerned.
2. The Contracting Parties shall, for each quality objective chosen, and applied, report to the Commission on:
  - the points of discharge and the means of dispersal,
  - the area in which the quality objective is applied,
  - the location of sampling points,
  - the frequency of sampling,
  - the methods of sampling and of measurement
  - the results obtained
3. Samples must be properly representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show and changes in the aquatic environment, taking into account, in particular, natural variations in the hydrological regime. The salt-water fish analysis must be carried out on a sufficiently representative number of samples and species.
4. With regard to the quality objective in paragraph 1.1 of Annex II, the competent authority shall choose the species of fish to be adopted as indicators for analysis. For salt waters the species chosen from among those inhabiting coastal waters and caught locally may include cod (*Gadus morhua*), whiting (*Merlangius merlangus*), plaice (*Pleuronectes platessa*), mackerel (*Scomber scombrus*), haddock (*Melanogrammus aeglefinus*) and flounder (*Platichthys flesus*).