
EUROPEAN PARLIAMENT

Working Documents

1982-1983

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DOCUMENT 1-821/82

REPORT

drawn up on behalf of the Committee on the Environment,
Public Health and Consumer Protection

on the proposal from the Commission of the European
Communities to the Council (Doc. 1-37/81 - COM(81) 56 final)
for a directive concerning the limit values for discharges
of cadmium into the aquatic environment and quality
objectives for cadmium in the aquatic environment
and

on the motion for a resolution on the export to Sweden
of products containing cadmium

Rapporteur: Mrs B. WEBER

By letter of 11 March 1981 the President of the Council requested the European Parliament to deliver an opinion on the proposal from the Commission to the Council for a directive concerning the limit values for discharges of cadmium into the aquatic environment and quality objectives for cadmium in the aquatic environment.

On 25 March 1981 the President of the European Parliament referred this proposal to the Committee on the Environment, Public Health and Consumer Protection as the committee responsible.

On 14 April 1981 the Committee on the Environment, Public Health and Consumer Protection appointed Mrs WEBER rapporteur.

At its sitting of 20 June 1980, the European Parliament referred the motion for a resolution on the export to Sweden of products containing cadmium (Doc. 1-802/79) tabled by Mr Moreland, Mr Prout and Mr Sherlock pursuant to Rule 47 of the Rules of Procedure, to the Committee on the Environment, Public Health and Consumer Protection as the committee responsible, for which Mrs WEBER was also appointed rapporteur on 14 April 1981.

The Committee on the Environment, Public Health and Consumer Protection considered the draft report at its meetings of 31 March 1982, 21 September 1982 and 19 October 1982. At the last of these meetings it decided by 11 votes, with 7 abstentions to recommend that the Commission's proposal should be approved subject to the following amendments.

The committee then decided to advise Parliament to apply Rule 36(2) of the Rules of Procedure.

The motion for a resolution as a whole was unanimously adopted.

The following took part in the vote: Mr Collins, chairman; Mr McCartin, vice-chairman; Mr Johnson, vice-chairman; Mrs Weber, rapporteur and vice-chairman; Mr Alber, Mr Berkhouwer, Mr Bombard, Mr Ceravalo (deputizing for Mr Spinelli), Mr Del Duca, Mr Eisma (deputizing for Mrs Spaak), Mr Ercini (deputizing for Mr Ghergo), Mrs Van Hemeldonck, Mrs Lentz-Cornette, Mr Nordmann, Mrs Pantazi-Tzifa, Mrs Pruvot (deputizing for Mrs Scrivener), Mrs Schleicher and Mr Sherlock.

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Annex I. Bibliography consulted

Annex II. Motion for a Resolution (Doc. 1-802/79)

The Committee on the Environment, Public Health and Consumer Protection hereby submits to the European Parliament the following amendments and motion for a resolution, together with explanatory statement:

Amendments by the Committee on the Environment, Public Health and Consumer Protection

Text proposed by the Commission of the European Communities¹

Proposal for a Council Directive concerning the limit values for discharges of cadmium into the aquatic environment and quality objectives for cadmium in the aquatic environment

Amendment No. 1

Whereas at the present time it is not practicable to establish limit values for discharges arising from the manufacture of phosphoric acid and fertilizers from phosphate rock;

Whereas at the present time it is not practicable to establish limit values for discharges arising from the manufacture of phosphoric acid from phosphate rock;

Amendment No. 2

Article 2(d)

(d) 'industrial plant' means: a plant at which cadmium or any substance containing cadmium is handled, with the exception of plant at which phosphoric acid and/or phosphate fertilizers are manufactured from phosphate rock;

(d) 'industrial plant' means: a plant at which cadmium or any substance containing cadmium is handled, with the exception of plant at which phosphoric acid is manufactured from phosphate rock;

Amendment No. 3

Article 2(e)

'existing plant' means: an industrial plant which is operational on the date of notification of this directive;

'existing plant' means: an industrial plant which is operational on 1 January 1983;

Amendment No. 4

Article 3

1. The limit values for emission standards and the time limits by which they must be applied are given in Annex I. The limit values shall apply at the point immediately before the discharge enters any of the waters referred to in Article 1(2), whether directly or from a sewer.

1. The limit values for emission standards and the time limits by which they must be applied are given in Annex I. The limit values shall apply at the point immediately before the discharge enters any of the waters referred to in Article 1(2) or a sewer.

¹ OJ No. C 118, 21.5.1981, p. 3

Amendment No. 5

Article 3

4. In the case of new plants Member States may grant authorizations only if such authorizations contain a reference to the standards corresponding to the best technical means available for preventing discharges of cadmium, which shall be adapted to progress in the state of the art.

4. In the case of new plants the emission standards shall be set in accordance with the best technical means available.

Amendment No. 6

Article 5

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

Amendment No. 7

Annex I Table

Other industries except the manufacture of phosphoric acid and fertilizers from phosphate rock.

Other industries except the manufacture of phosphoric acid from phosphate rock.

Amendment No. 8

Annex II Quality objectives

For those Member States which apply the exception provided for in Article 6(3) of Directive 76/464/EEC, the emission standards which the Member States must establish and ensure are applied, pursuant to Article 5 of that Directive, 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 cadmium. The competent authority shall determine the area affected in each case and select from among the quality objectives listed 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 this Directive is to eliminate all pollution.

Amendment No. 9

Annex II Quality objectives

1. In order to eliminate pollution as defined in Directive 76/464/EEC and pursuant to Article 2 of that Directive, the following quality objectives are set, in which the cadmium content shall always be taken to mean the total cadmium content in the water (whether or not in solution).

Amendment No. 10

Annex II Quality objectives

1.1. Fresh water

This article refers to inland surface water as mentioned in Article 1(1) of Directive 76/464/EEC.

1.1.1. The maximum permissible concentration
.....

1.1. The maximum permissible concentration
.....

1.2. (becomes new 1.3. (see below))

1.3. (becomes new 1.4. (see below))

Amendment No. 11

Annex II Quality objectives

1.2. Salt water

This article relates to the estuary,
internal coastal, and territorial
waters referred to in Article 1.1. of
Directive 76/464/EEC.

Amendment No. 12

Annex II Quality objectives

1.4. The cadmium content of sediments
or molluscs and shellfish must not
increase with time.

2.3. The quality objective must be such as to protect the health of persons consuming fish taken from the water in question and to protect any other legitimate use of such water.

Amendment No. 13

Annex II Quality objectives

2. Higher cadmium concentrations than those referred in paragraphs 1.1.1. and 1.2.1. shall not be taken into account when they arise as a result of floods, natural disasters or exceptional meteorological conditions.
4. Higher cadmium concentrations than those referred in paragraph 1.1. and 2.1. shall not be taken into account when they arise as a result of floods, natural disasters or exceptional meteorological conditions.

Amendment No. 14

3. The numerical values of the quality objectives specified in 1.1.1. and 1.2.1. may by way of exception, and where this is necessary for technical reasons, be multiplied by 1.5 until 1 January 1986 provided that the Commission has been notified beforehand.
5. The quality objectives given in paragraphs 1.1. and 2.1. apply from 1 January 1986. Less severe quality objectives apply from 1 January 1983 but in no case may these exceed twice the relevant value specified in 1.1. and 2.1.

The quality objectives specified in 1.2., 1.3., 2.2. and 2.3. apply from 1 January 1983.

Amendment No. 15

Annex II Quality objectives

4. If a stretch of water in a given area is subject to several quality objectives, its quality must meet each of these objectives.
7. Where a stretch of water has more than one use which is to be protected, the quality objective must be stringent enough to protect all these uses.

Amendment No. 16

Annex II Quality objectives

5. The quality of the water must be such as to comply with the requirements of any other Council Directive applicable to such waters as regards the presence of cadmium.

Amendment No. 17

Annex III, Article 3

3. Samples must be sufficiently representative of the quality of the waters in the area affected by the discharges to show changes in the state of the stretch of water, allowing in particular for natural variations in the hydrological regime. The saltwater fish analysis must be carried out on a sufficiently representative number of samples and species.

3. Samples must be properly representative of the quality of the aquatic environment for the area affected by the discharge, and the frequency of sampling must be sufficiently high to show changes in the state of the aquatic environment.

Amendment No. 18

Annex III, Article 4

4. For the purpose of the quality objectives laid down in Annex II the competent authorities shall select the species of fish to be analysed as indicators.

Amendment No. 19

Annex IV, Article 1

1. The reference method of analysis to determine cadmium in water, in sediments and in molluscs and shellfish is atomic absorption spectrophotometry.
(delete the rest of the article)
1. The reference method of analysis to determine cadmium in water, molluscs and sediments is atomic absorption spectrophotometry after appropriate treatment of the sample. In the case of samples taken in connection with the quality objectives defined in paragraphs 1(1), 2(1) and 2(2) of Annex II this pretreatment may include filtering the sample through a 0.45 micron filter.

MOTION FOR A RESOLUTION

closing the procedure for consultation of the European Parliament on the proposal from the Commission for a Council Directive concerning the limit values for discharges of cadmium into the aquatic environment and quality objectives for cadmium in the aquatic environment

The European Parliament,

- having regard to the proposal from the Commission to the Council (COM(81) 56 final)¹,
- having been consulted by the Council (Doc. 1-37/81),
- having regard to the framework Directive of the Council of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community²,
- having regard to the Council Directive of 22 March 1982 on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry³,
- having regard to the Commission proposal for a directive on limit values for discharges of aldrin, dieldrin and endrin into the aquatic environment of the Community (Doc. 195/79) and the report of the European Parliament, rapporteur Mr M. MERTENS (Doc. 1-54/80),
- having regard to the report by the committee responsible (Doc. 1-821/82),
- having regard to the result of the vote on the proposal from the Commission,

A. wishing to reduce the current discharges of cadmium into the aquatic environment of the Community,

¹ OJ No. C 118, 21.5.1981, p. 3

² OJ No. L 129, 18.5.1976

³ OJ No. L 81, 27.3.1982

- B. having regard to the European Communities' environmental protection programmes,
1. Welcomes the fact that, after the framework directive and the proposals on discharges of mercury, and aldrin, dieldrin and endrin into the aquatic environment, the Commission has now submitted a proposal on the dangerous heavy metal cadmium;
 2. Confirms thereby its past resolutions that health hazards from heavy metals must be prevented, as they are very difficult to eliminate from the body and therefore accumulate over the years;
 3. Considers regulation of the use of cadmium to be essential;
 4. Believes, taking into account efforts in other countries, that a reduction in the use of cadmium is both desirable and clearly possible;
 5. Acknowledges that water pollution is due not only to direct but also to indirect discharges (airborne, fertilizers);
 6. Is aware of the danger that pollution of one medium (water) may be transferred to another (air or soil), and calls therefore for research and monitoring to gain more precise information and enable measures to be taken not only for cadmium but also for the other heavy metals;
 7. Proposes (after adoption of this directive embodying uniform measuring methods throughout the Community) re-examining the accumulation of cadmium in plants, animals and humans after a period of 5-10 years;
 8. Calls in this context for an additional ecological monitoring system (bioindicators);
 9. Welcomes the Commission's intention to propose a directive extending the biological screening of the population for lead (Directive 77/312/EEC) to cover cadmium and other heavy metals (answer of the Commission to Written Question No. 246/82);
 10. Supports the Commission's efforts to create Community regulations for sewage sludge;
 11. Asks therefore the Council to establish as soon as possible more restrictive values in accordance with the latest findings;

12. Considers that a regulation on dredging from rivers might also be necessary, as heavy metals accumulate to levels 8-30 times greater than in water, and are in addition made more easily transportable by a lower PH value (acid rain);
13. Urges the Commission to submit a common draft directive in the form of a manual covering measuring methods for all dangerous substances, in order to simplify the procedure for future directives;
14. Wishes that in the case of existing establishments Community financial aid should be available to enable these to make use as soon as possible of the optimum techniques for eliminating cadmium based on the polluter pays principle;
15. Believes that it is possible to achieve lower values in some industries for mg/l discharge, and for g discharged per kg used in production;
16. Calls upon all industries concerned to help reduce cadmium pollution, for example by changing manufacturing processes;
17. Regards recycling as a possible solution which should be examined further in areas where the use of cadmium is still necessary;
18. Regrets that for technical reasons it is not possible to control discharges of cadmium from the phosphate rock processing industry within the framework of the present directive, but requests the Commission to present, in the near future, a separate proposal dealing with this source of pollution as soon as the technical means for monitoring and reducing the cadmium content in effluent from these industrial plants are available;
19. Calls on the Commission to add a reference to DIN standards or to define precisely the analytical methods specified in the draft directive;
20. Urges the Commission to encourage and carry out epidemiological research and investigations at Community level into illnesses caused by cadmium as the number of test subjects available for such studies in the individual Member States is too small;

21. Supports the decision of the Swedish Government to limit the use of cadmium in Sweden as far as possible, and therefore rejects the above-mentioned motion for a resolution which claims that decision to be contrary to the furtherance of good relations between Sweden and the Community;
22. Instructs its President to forward to the Commission and the Council the proposal from the Commission as voted by Parliament and the corresponding resolution as Parliament's opinion.

EXPLANATORY STATEMENT

1. Half a million different chemicals are currently in use throughout the world. The number is growing each year. Many of these chemicals represent a potential threat to the environment. The main offenders are the heavy metals such as lead, cadmium and mercury, which are harmful to human beings, animals and plants. Even small amounts, regularly consumed, can impair blood formation and affect the nervous system. These chemicals accumulate in the organism and can therefore lead to chronic toxicopathy including serious kidney damage. As they are present in the air, water and soil, they are absorbed into vegetation, by animals and the human food chain.

2. It is estimated on the basis of studies in the European Community that the actual intake by human beings has already attained 70-80% of the maximum tolerable weekly intake of 400-500 μg proposed by the World Health Organization. The daily intake level is between 10-20 to 60-70 μg . 70 μg per week alone is taken in via drinking water.

3. There is, therefore, reason for concern, although Europe is hardly threatened by a catastrophe on the scale of the Itai-Itai disease in Fuchu, Japan, a few years ago, where chiefly as a result of the high level of cadmium in rice - practically the sole food of the local population - the proportion of calcium in the bones fell so that the victims shrank as much as 30 cm, suffering intolerable pain.

4. Recent epidemiological research shows that the environmental pollution by cadmium found in some highly industrialized countries in Europe leads to perceptible impairment of kidney function, particularly in the high-risk sectors of the population (mainly elderly women). Given the biological half-life of cadmium of between 10 and 30 years, the most important features are the chronic effects, which usually take the form of renal insufficiency (report on cadmium by the Hesse Minister for land development, the environment, agriculture and forestry, Wiesbaden, April 1982). Studies of population groups in highly polluted industrial areas confirm that there is an increased risk for 0.1 to 1% of the population over 50 years old of kidney damage caused by cadmium (study by the Institute for Industrial and Medical Toxicology of the Belgian University in Louvain, quoted in GEO magazine No. 8, August 1982).

5. European legislation to reduce discharge of cadmium is also urgently required because the ever-increasing levels of cadmium in the natural environment mean that this situation will deteriorate seriously over the next few years owing to the high persistence of heavy metals. For this reason, various countries such as Sweden and Denmark have already introduced stringent restrictions on the use of cadmium.

6. Cadmium is only seldom found in its pure form in nature. It is normally contained in zinc, lead and copper and released when these materials are processed; discharges also occur in the combustion of coal and oil. At the present time, more than 5,000 t per year are discharged into the environment as a result of human activity. The annual growth rate for cadmium production in the Community between 1968 and 1978 was 10% (Ecotoxicology of Cadmium, Report, Commission of the European Communities, EUR 7499 EN). According to scientific studies (The Pathway in the European Community, Joint Research Centre, ISPRA, EUR 6626 EN), it would be possible to reduce considerably the levels of cadmium in the air, soil, sediments and water by the year 2100, using a variety of approaches and measures of differing effectiveness such as the installation of filters, recycling, coal gasification and even the total replacement of cadmium in pigments and batteries.

<u>Year_2100</u>		<u>Path_I</u>	<u>Path_II</u>	<u>Path_III</u>	<u>Path_IV</u>
Air	ng/m ³	4.5	3.6	2.1	1.8
Soil	ppb	670	670	400	380
Sediment	"	129000	129000	7200	6900
Rivers	"	2.6	2.6	1.4	1.38

7. The framework directive adopted on 4 May 1976 on the discharge of certain dangerous substances into the aquatic environment of the Community was designed to counter the threat to the environment and health from toxic substances. Experts from the Member States decided in 1976 which dangerous substances were to be covered by implementing directives. Subsequently the directive on mercury was adopted by the Council on 3 December 1981. A draft directive on aldrin, dieldrin and endrin is before the Council awaiting adoption.

8. The present directive only relates to the problem of cadmium discharges into the aquatic environment. It is important to remember, however, that if this measure is to succeed it must form part of an entire battery of new measures relating to the overall effect of cadmium on the environment. The disposal of effluent waste, the effects of this on sewage or river sludge, protective regulations for groundwater, atmospheric pollution and product standards all have a part to play in solving this problem. There is not only direct pollution of the aquatic environment but also indirect (airborne or fertilizers).

9. A close watch will have to be kept on the situation over the next 5-10 years and the standard measuring techniques which form part of this directive will make it far easier to compare results. The Member States should create an ecological monitoring system to provide precise data from bio-indicators.

10. There is also a need for more thorough studies than hitherto of the effects of heavy metals, particularly cadmium, on human beings and the scale of the risk involved. The Commission's proposal to extend the directive on screening of the population for lead (77/312/EEC) to cadmium and other heavy metals is a step in the right direction (reply by the Commission to Written Question No. 246/82).

11. Community legislation should similarly cover sewage, as this can no longer be used in agriculture, despite the benefits, because of its high cadmium content. National measures are already being prepared in some Member States.

12. The recycling of sludge dredged from rivers is also often impossible because of the high cadmium content, particularly as cadmium levels in sediment are some 8 to 30 times higher than in the river. In West Germany alone, there are 30 m m^3 of dredged sludge in the coastal area and some 2.5 m m^3 in the interior, which in the case of heavily polluted rivers have a cadmium content of 40-50 mg/kg sludge.

13. The surest way to prevent further pollution is total substitution; where this is not possible, it is necessary to switch to improved methods of production, installation of filter units, the use of raw materials with a lower cadmium content or the recycling of products containing cadmium.

14. New industrial plant must be adapted to the latest state of the art to prevent unnecessary discharges, a step that would lead to a major reduction in discharges already in the short term. Article 6 of the 1976 directive (76/464/EEC - OJ L 129/25) clearly specifies this for all dangerous substances to which the provisions on discharges into the aquatic environment apply.

15. Effluent containing cadmium is produced in zinc mining, refinement of zinc and lead and in the non-ferrous metals industry, the production of pigments, stabilizers and batteries, in galvanizing technology the production of cadmium compounds and in the phosphate industry, particularly in the production of fertilizers and phosphoric acid. In the draft directive, concentration and load limits are specified for these and other types of use and quality objectives for the aquatic environment are laid down.

16. A minority of the committee considered that with the present state of the art, the limit values in certain sectors of industry could already be set lower than in the Commission's draft directive. All the amendments to this effect were therefore rejected which means that Annex I on limit values, time-limits and verification frequencies and procedures for discharges of cadmium is maintained virtually without amendment.

Cadmium bibliography consulted

Ecotoxicology of Cadmium, Commission of the European Communities, Gesellschaft für Strahlen- und Umweltforschung mbH, Munich, Brussels and Luxembourg 1981 (EUR 7499 EM)

The Swedish Ban on Cadmium, The National Swedish Environment Protection Board

The Pathway of Cadmium in the European Communities, Commission of the European Communities, Ispra Research Centre, 1979 (EUR 6626 EN)

Water pollution: Cadmium, Select Committee on the European Communities, House of Lords, London, July 1981

Cadmium in the Environment and its Significance to Man, Department of the Environment, No. 17, 1980, London

Cadmium pollution, Danish Ministry of the Environment, Copenhagen, October 1980

Environmental Quality, 11th Report of the Council of Environmental Quality, Washington, December 1980

1978 Environmental Report, Stuttgart/Mainz, February 1978

Cadmium Report, Federal Environmental Office, February 1981, Berlin

Cadmium Report

Environmental Protection in Hesse, the Hesse Minister for Land Development, the Environment, Agriculture and Forestry, February 1982, Wiesbaden

Cadmium Report 1976/77, Bavarian Chamber of Commerce on behalf of the Federal Minister for Youth, Family and Health, Bonn, Nuremberg, December 1980

Cadmium study as part of the work programme of the Federation/Lander Working Party on Environmental Chemicals: 'Pollution of the Natural Environment by Heavy Metals', August 1980

Report on Heavy Metals in Water, Supreme Building Authority in the Bavarian Ministry of the Interior, Munich, August 1980

The Politics of Cancer, Epstein, Samuel, New York 1979

Statement on cadmium by the Association of the Chemical Industry of Germany, October 1980

GEO, No. 8/August 1982

and various opinions from associations and specialist committees.

MOTION FOR A RESOLUTION (DOCUMENT 1-802/79)

tabled by Mr MORELAND, Mr PROUT and Mr SHERLOCK

pursuant to Rule 25 of the Rules of Procedure

on the export to Sweden of products containing cadmium

The European Parliament,

- having regard to the decision of the Swedish Government to ban from 1983 the import of all products the surfaces of which have been treated with a cadmium substance or which contain cadmium as a stabiliser or pigment,
- recognizing that cadmium is used in the production of ceramics, porcelain, chinaware, leatherware and electric appliances, and that no substitute is currently available for cadmium as a hardener and pigments in plastics,
- noting that, while care has to be maintained in the use of cadmium in its effect on health and environment, the Swedish decision goes beyond the standards recommended by the World Health Organization, and Community and Member State legislation,

Urges the Commission:

1. To examine the effects of this decision on trade with Sweden and on industry in the Community;
2. To make clear to the Swedish Government that it regards the decision as being contrary to the furtherance of good relations between Sweden and the Community;
3. To press for the retraction of the ordinance resulting from the decision and
4. To ensure that, if the decision is implemented, there are no undue difficulties in handling goods at the Swedish customs, and that exemptions from the ordinance are obtained.