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**COUNCIL DIRECTIVE**  
**of 21 May 1991**  
**concerning urban waste water treatment**  
(91/271/EEC)  
(OJ L 135, 30.5.1991, p. 40)

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► <b><u>M1</u></b>	Commission Directive 98/15/EC of 27 February 1998	L 67	29	7.3.1998
► <b><u>M2</u></b>	Regulation (EC) No 1882/2003 of the European Parliament and of the Council of 29 September 2003	L 284	1	31.10.2003
► <b><u>M3</u></b>	Regulation (EC) No 1137/2008 of the European Parliament and of the Council of 22 October 2008	L 311	1	21.11.2008
► <b><u>M4</u></b>	Council Directive 2013/64/EU of 17 December 2013	L 353	8	28.12.2013

Corrected by:

- **C1** Corrigendum, OJ L 139, 2.6.1999, p. 34 (98/15/EC)
- **C2** Corrigendum, OJ L 189, 17.7.2015, p. 41 (98/15/EC)



**COUNCIL DIRECTIVE**  
**of 21 May 1991**  
**concerning urban waste water treatment**  
(91/271/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular 130s thereof,

Having regard to the proposal from the Commission <sup>(1)</sup>,

Having regard to the opinion of the European Parliament <sup>(2)</sup>,

Having regard to the opinion of the Economic and Social Committee <sup>(3)</sup>,

Whereas the Council Resolution of 28 June 1988 on the protection of the North Sea and of other waters in the Community <sup>(4)</sup> invited the Commission to submit proposals for measures required at Community level for the treatment of urban waste water;

Whereas pollution due to insufficient treatment of waste water in one Member State often influences other Member States' waters; whereas in accordance with Article 130r, action at Community level is necessary;

Whereas to prevent the environment from being adversely affected by the disposal of insufficiently-treated urban waste water, there is a general need for secondary treatment of urban waste water;

Whereas it is necessary in sensitive areas to require more stringent treatment; whereas in some less sensitive areas a primary treatment could be considered appropriate;

Whereas industrial waste water entering collecting systems as well as the discharge of waste water and disposal of sludge from urban waste water treatment plants should be subject to general rules or regulations and/or specific authorizations;

Whereas discharges from certain industrial sectors of biodegradable industrial waste water not entering urban waste water treatment plants before discharge to receiving waters should be subject to appropriate requirements;

Whereas the recycling of sludge arising from waste water treatment should be encouraged; whereas the disposal of sludge to surface waters should be phased out;

Whereas it is necessary to monitor treatment plants, receiving waters and the disposal of sludge to ensure that the environment is protected from the adverse effects of the discharge of waste waters;

Whereas it is important to ensure that information on the disposal of waste water and sludge is made available to the public in the form of periodic reports;

Whereas Member States should establish and present to the Commission national programmes for the implementation of this Directive;

<sup>(1)</sup> OJ No C 1, 4.1.1990, p. 20 and

OJ No C 287, 15.11.1990, p. 11.

<sup>(2)</sup> OJ No C 260, 15.10.1990, p. 185.

<sup>(3)</sup> OJ No C 168, 10.7.1990, p. 36.

<sup>(4)</sup> OJ No C 209, 9.8.1988, p. 3.

**▼B**

Whereas a Committee should be established to assist the Commission on matters relating to the implementation of this Directive and to its adaptation to technical progress,

HAS ADOPTED THIS DIRECTIVE:

*Article 1*

This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors.

The objective of the Directive is to protect the environment from the adverse effects of the abovementioned waste water discharges.

*Article 2*

For the purpose of this Directive:

1. 'urban waste water' means domestic waste water or the mixture of domestic waste water with industrial waste water and/or run-off rain water;
2. 'domestic waste water' means waste water from residential settlements and services which originates predominantly from the human metabolism and from household activities;
3. 'industrial waste water' means any waste water which is discharged from premises used for carrying on any trade or industry, other than domestic waste water and run-off rain water;
4. 'agglomeration' means an area where the population and/or economic activities are sufficiently concentrated for urban waste water to be collected and conducted to an urban waste water treatment plant or to a final discharge point;
5. 'collecting system' means a system of conduits which collects and conducts urban waste water;
6. '1 p.e. (population equivalent)' means the organic biodegradable load having a five-day biochemical oxygen demand (BOD<sub>5</sub>) of 60 g of oxygen per day;
7. 'primary treatment' means treatment of urban waste water by a physical and/or chemical process involving settlement of suspended solids, or other processes in which the BOD<sub>5</sub> of the incoming waste water is reduced by at least 20 % before discharge and the total suspended solids of the incoming waste water are reduced by at least 50 %;
8. 'secondary treatment' means treatment of urban waste water by a process generally involving biological treatment with a secondary settlement or other process in which the requirements established in Table 1 of Annex I are respected;
9. 'appropriate treatment' means treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other Community Directives;
10. 'Sludge' means residual sludge, whether treated or untreated, from urban waste water treatment plants;

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11. 'eutrophication' means the enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned;
12. 'estuary' means the transitional area at the mouth of a river between fresh-water and coastal waters. Member States shall establish the outer (seaward) limits of estuaries for the purposes of this Directive as part of the programme for implementation in accordance with the provisions of Article 17 (1) and (2);
13. 'coastal waters' means the waters outside the low-water line or the outer limit of an estuary.

*Article 3*

1. Member States shall ensure that all agglomerations are provided with collecting systems for urban waste water,

— at the latest by 31 December 2000 for those with a population equivalent (p.e.) of more than 15 000, and

— at the latest by 31 December 2005 for those with a p.e. of between 2 000 and 15 000.

For urban waste water discharging into receiving waters which are considered 'sensitive areas' as defined under Article 5, Member States shall ensure that collection systems are provided at the latest by 31 December 1998 for agglomerations of more than 10 000 p.e.

Where the establishment of a collecting system is not justified either because it would produce no environmental benefit or because it would involve excessive cost, individual systems or other appropriate systems which achieve the same level of environmental protection shall be used.

**▼M4**

1a. By way of derogation from the first and second subparagraphs of paragraph 1, in respect of Mayotte as an outermost region within the meaning of Article 349 of the Treaty on the Functioning of the European Union (hereinafter 'Mayotte'), France shall ensure that all agglomerations are provided with collecting systems for urban waste water:

— by 31 December 2020 at the latest for agglomerations of more than 10 000 p.e., which will cover at least 70 % of the load generated in Mayotte;

— by 31 December 2027 at the latest for agglomerations of more than 2 000 p.e.

**▼M3**

2. Collecting systems described in paragraph 1 shall satisfy the requirements of section A of Annex I. The Commission may amend those requirements. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(3).

**▼B***Article 4*

1. Member States shall ensure that urban waste water entering collecting systems shall before discharge be subject to secondary treatment or an equivalent treatment as follows:

- at the latest by 31 December 2000 for all discharges from agglomerations of more than 15 000 p.e.,
- at the latest by 31 December 2005 for all discharges from agglomerations of between 10 000 and 15 000 p.e.,
- at the latest by 31 December 2005 for discharges to fresh-water and estuaries from agglomerations of between 2 000 and 10 000 p.e.

**▼M4**

1a. By way of derogation from paragraph 1, in respect of Mayotte, France shall ensure that urban waste water entering collecting systems is, before discharge, subject to secondary treatment or an equivalent treatment:

- by 31 December 2020 at the latest for agglomerations of more than 15 000 p.e., which, along with the agglomerations referred to in Article 5 (2a), will cover at least 70 % of the load generated in Mayotte;
- by 31 December 2027 at the latest for agglomerations of more than 2 000 p.e.

**▼B**

2. Urban waste water discharges to waters situated in high mountain regions (over 1 500 m above sea level) where it is difficult to apply an effective biological treatment due to low temperatures may be subjected to treatment less stringent than that prescribed in paragraph 1, provided that detailed studies indicate that such discharges do not adversely affect the environment.

**▼M3**

3. Discharges from urban waste water treatment plants described in paragraphs 1 and 2 shall satisfy the relevant requirements of section B of Annex I. The Commission may amend those requirements. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(3).

**▼B**

4. The load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.

*Article 5*

1. For the purposes of paragraph 2, Member States shall by 31 December 1993 identify sensitive areas according to the criteria laid down in Annex II.

2. Member States shall ensure that urban waste water entering collecting systems shall before discharge into sensitive areas be subject to more stringent treatment than that described in Article 4, by 31 December 1998 at the latest for all discharges from agglomerations of more than 10 000 p.e.

**▼M4**

2a. By way of derogation from paragraph 2, in respect of Mayotte, France shall ensure that urban waste water entering collecting systems shall before discharge into sensitive areas be subject to more stringent treatment than that described in Article 4 by 31 December 2020 at

**▼M4**

the latest for agglomerations of more than 10 000 p.e., which, along with the agglomerations referred to in Article 4(1a), will cover at least 70 % of the load generated in Mayotte.

**▼M3**

3. Discharges from urban waste water treatment plants described in paragraph 2 shall satisfy the relevant requirements of section B of Annex I. The Commission may amend those requirements. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(3).

**▼B**

4. Alternatively, requirements for individual plants set out in paragraphs 2 and 3 above need not apply in sensitive areas where it can be shown that the minimum percentage of reduction of the overall load entering all urban waste water treatment plants in that area is at least 75 % for total phosphorus and at least 75 % for total nitrogen.

5. Discharges from urban waste water treatment plants which are situated in the relevant catchment areas of sensitive areas and which contribute to the pollution of these areas shall be subject to paragraphs 2, 3 and 4.

In cases where the above catchment areas are situated wholly or partly in another Member State Article 9 shall apply.

6. Member States shall ensure that the identification of sensitive areas is reviewed at intervals of no more than four years.

7. Member States shall ensure that areas identified as sensitive following review under paragraph 6 shall within seven years meet the above requirements.

8. A Member State does not have to identify sensitive areas for the purpose of this Directive if it implements the treatment established under paragraphs 2, 3 and 4 over all its territory.

*Article 6*

1. For the purposes of paragraph 2, Member States may by 31 December 1993 identify less sensitive areas according to the criteria laid down in Annex II.

2. Urban waste water discharges from agglomerations of between 10 000 and 150 000 p.e. to coastal waters and those from agglomerations of between 2 000 and 10 000 p.e. to estuaries situated in areas described in paragraph 1 may be subjected to treatment less stringent than that prescribed in Article 4 providing that:

— such discharges receive at least primary treatment as defined in Article 2 (7) in conformity with the control procedures laid down in Annex I D,

— comprehensive studies indicate that such discharges will not adversely affect the environment.

Member States shall provide the Commission with all relevant information concerning the abovementioned studies.

3. If the Commission considers that the conditions set out in paragraph 2 are not met, it shall submit to the Council an appropriate proposal.

**▼ B**

4. Member States shall ensure that the identification of less sensitive areas is reviewed at intervals of not more than four years.

5. Member States shall ensure that areas no longer identified as less sensitive shall within seven years meet the requirements of Articles 4 and 5 as appropriate.

*Article 7*

Member States shall ensure that, by 31 December 2005, urban waste water entering collecting systems shall before discharge be subject to appropriate treatment as defined in Article 2 (9) in the following cases:

— for discharges to fresh-water and estuaries from agglomerations of less than 2 000 p.e.,

— for discharges to coastal waters from agglomerations of less than 10 000 p.e.

**▼ M4**

By way of derogation from the first paragraph, in respect of Mayotte, the time limit defined therein shall be 31 December 2027.

**▼ B***Article 8*

1. Member States may, in exceptional cases due to technical problems and for geographically defined population groups, submit a special request to the Commission for a longer period for complying with Article 4.

2. This request, for which grounds must be duly put forward, shall set out the technical difficulties experienced and must propose an action programme with an appropriate timetable to be undertaken to implement the objective of this Directive. This timetable shall be included in the programme for implementation referred to in Article 17.

3. Only technical reasons can be accepted and the longer period referred to in paragraph 1 may not extend beyond 31 December 2005.

**▼ M3**

4. The Commission shall examine that request and take appropriate measures in accordance with the regulatory procedure referred to in Article 18(2).

**▼ B**

5. In exceptional circumstances, when it can be demonstrated that more advanced treatment will not produce any environmental benefits, discharges into less sensitive areas of waste waters from agglomerations of more than 150 000 p.e. may be subject to the treatment provided for in Article 6 for waste water from agglomerations of between 10 000 and 150 000 p.e.

**▼M3**

In such circumstances, Member States shall submit beforehand the relevant documentation to the Commission. The Commission shall examine the case and take appropriate measures in accordance with the regulatory procedure referred to in Article 18(2).

**▼B***Article 9*

Where waters within the area of jurisdiction of a Member State are adversely affected by discharges of urban waste water from another Member State, the Member State whose waters are affected may notify the other Member State and the Commission of the relevant facts.

The Member States concerned shall organize, where appropriate with the Commission, the concertation necessary to identify the discharges in question and the measures to be taken at source to protect the waters that are affected in order to ensure conformity with the provisions of this Directive.

*Article 10*

Member States shall ensure that the urban waste water treatment plants built to comply with the requirements of Articles 4, 5, 6 and 7 are designed, constructed, operated and maintained to ensure sufficient performance under all normal local climatic conditions. When designing the plants, seasonal variations of the load shall be taken into account.

*Article 11*

1. Member States shall ensure that, before 31 December 1993, the discharge of industrial waste water into collecting systems and urban waste water treatment plants is subject to prior regulations and/or specific authorizations by the competent authority or appropriate body.

**▼M3**

2. Regulations and/or specific authorisation shall satisfy the requirements of section C of Annex I. The Commission may amend those requirements. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(3).

**▼B**

3. Regulations and specific authorization shall be reviewed and if necessary adapted at regular intervals.

*Article 12*

1. Treated waste water shall be reused whenever appropriate. Disposal routes shall minimize the adverse effects on the environment.

2. Competent authorities or appropriate bodies shall ensure that the disposal of waste water from urban waste water treatment plants is subject to prior regulations and/or specific authorization.



**▼M3**

3. Prior regulations and/or specific authorisation of discharges from urban waste water treatment plants made pursuant to paragraph 2 within agglomerations of 2 000 to 10 000 p.e. in the case of discharges to fresh waters and estuaries, and within agglomerations of 10 000 p.e. or more in respect of all discharges, shall contain conditions to satisfy the relevant requirements of section B of Annex I. The Commission may amend those requirements. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(3).

**▼B**

4. Regulations and/or authorization shall be reviewed and if necessary adapted at regular intervals.

*Article 13*

1. Member States shall ensure that by 31 December 2000 biodegradable industrial waste water from plants belonging to the industrial sectors listed in Annex III which does not enter urban waste water treatment plants before discharge to receiving waters shall before discharge respect conditions established in prior regulations and/or specific authorization by the competent authority or appropriate body, in respect of all discharges from plants representing 4 000 p.e. or more.

2. By 31 December 1993 the competent authority or appropriate body in each Member State shall set requirements appropriate to the nature of the industry concerned for the discharge of such waste water.

3. The Commission shall carry out a comparison of the Member States' requirements by 31 December 1994. It shall publish the results in a report and if necessary make an appropriate proposal.

*Article 14*

1. Sludge arising from waste water treatment shall be re-used whenever appropriate. Disposal routes shall minimize the adverse effects on the environment.

2. Competent authorities or appropriate bodies shall ensure that before 31 December 1998 the disposal of sludge from urban waste water treatment plants is subject to general rules or registration or authorization.

3. Member States shall ensure that by 31 December 1998 the disposal of sludge to surface waters by dumping from ships, by discharge from pipelines or by other means is phased out.

4. Until the elimination of the forms of disposal mentioned in paragraph 3, Member States shall ensure that the total amount of toxic, persistent or bioaccumulable materials in sludge disposed of to surface waters is licensed for disposal and progressively reduced.

**▼B***Article 15*

1. Competent authorities or appropriate bodies shall monitor:
  - discharges from urban waste water treatment plants to verify compliance with the requirements of Annex I.B in accordance with the control procedures laid down in Annex I.D,
  - amounts and composition of sludges disposed of to surface waters.
2. Competent authorities or appropriate bodies shall monitor waters subject to discharges from urban waste water treatment plants and direct discharges as described in Article 13 in cases where it can be expected that the receiving environment will be significantly affected.
3. In the case of a discharge subject to the provisions of Article 6 and in the case of disposal of sludge to surface waters, Member States shall monitor and carry out any other relevant studies to verify that the discharge or disposal does not adversely affect the environment.
4. Information collected by competent authorities or appropriate bodies in complying with paragraphs 1, 2 and 3 shall be retained in the Member State and made available to the Commission within six months of receipt of a request.

**▼M3**

5. The Commission may formulate guidelines on the monitoring referred to in paragraphs 1, 2 and 3 in accordance with the regulatory procedure referred to in Article 18(2).

**▼B***Article 16*

Without prejudice to the implementation of the provisions of Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment <sup>(1)</sup>, Member States shall ensure that every two years the relevant authorities or bodies publish situation reports on the disposal of urban waste water and sludge in their areas. These reports shall be transmitted to the Commission by the Member States as soon as they are published.

*Article 17*

1. Member States shall by 31 December 1993 establish a programme for the implementation of this Directive.

**▼M4**

By way of derogation from the first subparagraph, in respect of Mayotte, France shall establish a programme for the implementation of this Directive by 30 June 2014.

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2. Member States shall by 30 June 1994 provide the Commission with information on the programme.

<sup>(1)</sup> OJ No L 158, 23.6.1990, p. 56.

**▼ M4**

By way of derogation from the first subparagraph, in respect of Mayotte, France shall provide the Commission with information on the programme by 31 December 2014.

**▼ B**

3. Member States shall, if necessary, provide the Commission by 30 June every two years with an update of the information described in paragraph 2.

**▼ M3**

4. The Commission shall determine, in accordance with the regulatory procedure referred to in Article 18(2), the methods and formats to be adopted for reporting on the national programmes. Any amendments to those methods and formats shall be adopted in accordance with that procedure.

**▼ B**

5. The Commission shall every two years review and assess the information received pursuant to paragraphs 2 and 3 above and publish a report thereon.

**▼ M2***Article 18*

1. The Commission shall be assisted by a committee.

**▼ M3**

2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

3. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

**▼ B***Article 19*

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive no later than 30 June 1993. They shall forthwith inform the Commission thereof.

2. When Member States adopt the measures referred to in paragraph 1, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

3. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field governed by this Directive.

*Article 20*

This Directive is addressed to the Member States.



## ANNEX I

**REQUIREMENTS FOR URBAN WASTE WATER****A. Collecting systems <sup>(1)</sup>**

Collecting systems shall take into account waste water treatment requirements.

The design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

- volume and characteristics of urban waste water,
- prevention of leaks,
- limitation of pollution of receiving waters due to storm water overflows.

**B. Discharge from urban waste water treatment plants to receiving waters <sup>(1)</sup>**

1. Waste water treatment plants shall be designed or modified so that representative samples of the incoming waste water and of treated effluent can be obtained before discharge to receiving waters.
2. Discharges from urban waste water treatment plants subject to treatment in accordance with Articles 4 and 5 shall meet the requirements shown in Table 1.
3. Discharges from urban waste water treatment plants to those sensitive areas which are subject to eutrophication as identified in Annex II.A (a) shall in addition meet the requirements shown in Table 2 of this Annex.
4. More stringent requirements than those shown in Table 1 and/or Table 2 shall be applied where required to ensure that the receiving waters satisfy any other relevant Directives.
5. The points of discharge of urban waste water shall be chosen, as far as possible, so as to minimize the effects on receiving waters.

**C. Industrial waste water**

Industrial waste water entering collecting systems and urban waste water treatment plants shall be subject to such pre-treatment as is required in order to:

- protect the health of staff working in collecting systems and treatment plants,
- ensure that collecting systems, waste water treatment plants and associated equipment are not damaged,
- ensure that the operation of the waste water treatment plant and the treatment of sludge are not impeded,
- ensure that discharges from the treatment plants do not adversely affect the environment, or prevent receiving water from complying with other Community Directives,
- ensure that sludge can be disposed of safely in an environmentally acceptable manner.

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<sup>(1)</sup> Given that it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated during situations such as unusually heavy rainfall, Member States shall decide on measures to limit pollution from storm water overflows. Such measures could be based on dilution rates or capacity in relation to dry weather flow, or could specify a certain acceptable number of overflows per year.

**▼B****D. Reference methods for monitoring and evaluation of results**

1. Member States shall ensure that a monitoring method is applied which corresponds at least with the level of requirements described below.

Alternative methods to those mentioned in paragraphs 2, 3 and 4 may be used provided that it can be demonstrated that equivalent results are obtained.

Member States shall provide the Commission with all relevant information concerning the applied method. If the Commission considers that the conditions set out in paragraphs 2, 3 and 4 are not met, it will submit an appropriate proposal to the Council.

2. Flow-proportional or time-based 24-hour samples shall be collected at the same well-defined point in the outlet and if necessary in the inlet of the treatment plant in order to monitor compliance with the requirements for discharged waste water laid down in this Directive.

Good international laboratory practices aiming at minimizing the degradation of samples between collection and analysis shall be applied.

3. The minimum annual number of samples shall be determined according to the size of the treatment plant and be collected at regular intervals during the year:

— 2 000 to 9 999 p.e.: 12 samples during the first year.  
four samples in subsequent years, if it can be shown that the water during the first year complies with the provisions of the Directive; if one sample of the four fails, 12 samples must be taken in the year that follows.

— 10 000 to 49 999 p. e.: 12 samples.

— 50 000 p.e. or over: 24 samples.

4. The treated waste water shall be assumed to conform to the relevant parameters if, for each relevant parameter considered individually, samples of the water show that it complies with the relevant parametric value in the following way:

(a) for the parameters specified in Table 1 and Article 2 (7), a maximum number of samples which are allowed to fail the requirements, expressed in concentrations and/or percentage reductions in Table 1 and Article 2 (7), is specified in Table 3;

(b) for the parameters of Table 1 expressed in concentrations, the failing samples taken under normal operating conditions must not deviate from the parametric values by more than 100 %. For the parametric values in concentration relating to total suspended solids deviations of up to 150 % may be accepted;

(c) for those parameters specified in Table 2 the annual mean of the samples for each parameter shall conform to the relevant parametric values.

5. Extreme values for the water quality in question shall not be taken into consideration when they are the result of unusual situations such as those due to heavy rain.

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Table 1: Requirements for discharges from urban waste water treatment plants subject to Articles 4 and 5 of the Directive. The values for concentration or for the percentage of reduction shall apply.

Parameters	Concentration	Minimum percentage of reduction <sup>(1)</sup>	Reference method of measurement
Biochemical oxygen demand (BOD <sub>5</sub> at 20 °C) without nitrification <sup>(2)</sup>	25 mg/l O <sub>2</sub>	70-90 40 under Article 4 (2)	Homogenized, unfiltered, undecanted sample. Determination of dissolved oxygen before and after five-day incubation at 20 °C ± 1 °C, in complete darkness. Addition of a nitrification inhibitor
Chemical oxygen demand (COD)	125 mg/l O <sub>2</sub>	75	Homogenized, unfiltered, undecanted sample Potassium dichromate
Total suspended solids	35 mg/l <sup>(3)</sup> 35 under Article 4 (2) (more than 10 000 p.e.) 60 under Article 4 (2) (2 000-10 000 p.e.)	90 <sup>(3)</sup> 90 under Article 4 (2) (more than 10 000 p.e.) 70 under Article 4 (2) (2 000-10 000 p.e.)	— Filtering of a representative sample through a 0,45 µm filter membrane. Drying at 105 °C and weighing — Centrifuging of a representative sample (for at least five mins with mean acceleration of 2 800 to 3 200 g), drying at 105 °C and weighing

<sup>(1)</sup> Reduction in relation to the load of the influent.

<sup>(2)</sup> The parameter can be replaced by another parameter: total organic carbon (TOC) or total oxygen demand (TOD) if a relationship can be established between BOD<sub>5</sub> and the substitute parameter.

<sup>(3)</sup> This requirement is optional.

Analyses concerning discharges from lagooning shall be carried out on filtered samples; however, the concentration of total suspended solids in unfiltered water samples shall not exceed 150 mg/l.

▼ **M1**

Table 2: ► **C2** Requirements for discharges from urban waste water treatment plants to sensitive areas which are subject to eutrophication as identified in Annex II.A(a). ◀ One or both parameters may be applied depending on the local situation. The values for concentration or for the percentage of reduction shall apply.

Parameters	Concentration	Minimum percentage of reduction <sup>(1)</sup>	Reference method of measurement
Total phosphorus	► <b>C1</b> 2 mg/l (10 000 — 100 000 p.e.) ◀ 1 mg/l (more than 100 000 p.e.)	80	Molecular absorption spectrophotometry
Total nitrogen <sup>(2)</sup>	15 mg/l (10 000-100 000 p.e.) <sup>(3)</sup> 10 mg/l (more than 100 000 p.e.) <sup>(3)</sup>	70-80	Molecular absorption spectrophotometry

<sup>(1)</sup> Reduction in relation to the load of the influent.

<sup>(2)</sup> Total nitrogen means the sum of total Kjeldahl nitrogen (organic and ammoniacal nitrogen) nitrate-nitrogen and nitrite-nitrogen.

<sup>(3)</sup> These values for concentration are annual means as referred to in Annex I, paragraph D.4(c). However, the requirements for nitrogen may be checked using daily averages when it is proved, in accordance with Annex I, paragraph D.1, that the same level of protection is obtained. In this case, the daily average must not exceed 20 mg/l of total nitrogen for all the samples when the temperature from the effluent in the biological reactor is superior or equal to 12 °C. The conditions concerning temperature could be replaced by a limitation on the time of operation to take account of regional climatic conditions.

**▼B***Table 3*

Series of samples taken in any year	Maximum permitted number of samples which fail to conform
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25





*ANNEX II*

**CRITERIA FOR IDENTIFICATION OF SENSITIVE AND LESS SENSITIVE AREAS**

**A. Sensitive areas**

A water body must be identified as a sensitive area if it falls into one of the following groups:

- (a) natural freshwater lakes, other freshwater bodies, estuaries and coastal waters which are found to be eutrophic or which in the near future may become eutrophic if protective action is not taken.

The following elements might be taken into account when considering which nutrient should be reduced by further treatment:

- (i) lakes and streams reaching lakes/reservoirs/closed bays which are found to have a poor water exchange, whereby accumulation may take place. In these areas, the removal of phosphorus should be included unless it can be demonstrated that the removal will have no effect on the level of eutrophication. Where discharges from large agglomerations are made, the removal of nitrogen may also be considered;
- (ii) estuaries, bays and other coastal waters which are found to have a poor water exchange, or which receive large quantities of nutrients. Discharges from small agglomerations are usually of minor importance in those areas, but for large agglomerations, the removal of phosphorus and/or nitrogen should be included unless it can be demonstrated that the removal will have no effect on the level of eutrophication;
- (b) surface freshwaters intended for the abstraction of drinking water which could contain more than the concentration of nitrate laid down under the relevant provisions of Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States<sup>(1)</sup> if action is not taken;
- (c) areas where further treatment than that prescribed in Article 4 of this Directive is necessary to fulfil Council Directives.

**B. Less sensitive areas**

A marine water body or area can be identified as a less sensitive area if the discharge of waste water does not adversely affect the environment as a result of morphology, hydrology or specific hydraulic conditions which exist in that area.

When identifying less sensitive areas, Member States shall take into account the risk that the discharged load may be transferred to adjacent areas where it can cause detrimental environmental effects. Member States shall recognize the presence of sensitive areas outside their national jurisdiction.

The following elements shall be taken into consideration when identifying less sensitive areas:

open bays, estuaries and other coastal waters with a good water exchange and not subject to eutrophication or oxygen depletion or which are considered unlikely to become eutrophic or to develop oxygen depletion due to the discharge of urban waste water.

<sup>(1)</sup> OJ No L 194, 25.7.1975, p. 26 as amended by Directive 79/869/EEC (OJ No L 271, 29.10.1979, p. 44).



*ANNEX III*

**INDUSTRIAL SECTORS**

1. Milk-processing
2. Manufacture of fruit and vegetable products
3. Manufacture and bottling of soft drinks
4. Potato-processing
5. Meat industry
6. Breweries
7. Production of alcohol and alcoholic beverages
8. Manufacture of animal feed from plant products
9. Manufacture of gelatine and of glue from hides, skin and bones
10. Malt-houses
11. Fish-processing industry