

## 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.

#### 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.

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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>a</sup>	Reference method of measurement
Biochemical oxygen demand (BOD5 at 20 °C) without nitrification <sup>b</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>c</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>c</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

**a** Reduction in relation to the load of the influent.

**b** The parameter can be replaced by another parameter: total organic carbon (TOC) or total oxygen demand (TOD) if a relationship can be established between BOD5 and the substitute parameter.

**c** This requirement is optional.

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			105 °C and weighing
a	Reduction in relation to the load of the influent.		
b	The parameter can be replaced by another parameter: total organic carbon (TOC) or total oxygen demand (TOD) if a relationship can be established between BOD5 and the substitute parameter.		
c	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.

[<sup>F1</sup>Table 2:

[<sup>X1</sup>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>a</sup>	Reference method of measurement
Total phosphorus	[ <sup>X2</sup> mg/l (10 000 — 100 000 p.e.)]	80	Molecular absorption spectrophotometry
	1 mg/l (more than 100 000 p.e.)		
Total nitrogen <sup>b</sup>	15 mg/l (10 000-100 000 p.e.) <sup>c</sup>	70-80	Molecular absorption spectrophotometry
	10 mg/l (more than 100 000 p.e.) <sup>c</sup>		

a Reduction in relation to the load of the influent.

b Total nitrogen means the sum of total Kjeldahl nitrogen (organic and ammoniacal nitrogen) nitrate-nitrogen and nitrite-nitrogen.

c 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.]

#### Editorial Information

**X2** Substituted by [Corrigendum to Commission Directive 98/15/EC of 27 February 1998 amending Council Directive 91/271/EEC with respect to certain requirements established in Annex I thereof \(Official Journal of the European Communities L 67 of 7 March 1998\)](#).

TABLE 3

Series of samples taken in any year	Maximum permitted number of samples which fail to conform
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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.

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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>(2)</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.

### ANNEX III

#### INDUSTRIAL SECTORS

1. Milk-processing
2. Manufacture of fruit and vegetable products
3. Manufacture and bottling of soft drinks
4. Potato-processing

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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

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- (1) 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.
- (2) [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](#)).