L.N. 340 of 2001

ENVIRONMENT PROTECTION ACT, 2001

(ACT NO. XX OF 2001)

Urban Waste Water Treatment Regulations, 2001

BY virtue of the powers conferred by articles 9 and 28 of the Environment Protection Act, 2001, the Minister for the Environment has made the following regulations:-

Citation and entry into force.

1. (1) The title of these regulations is the Urban Waste Water Treatment Regulations, 2001.

(2) These regulations shall come into force on such date as the Minister responsible for the environment may by notice in the Gazette appoint and different dates may be so appointed for the different provisions and different purposes of these regulations.

(3) A notice under sub-regulation (2) of this regulation may make such transitional provisions as appear to the Minister to be necessary or expedient in connection with the provisions thereby brought into force.

Scope.

2. (1) These regulations concern the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors.

(2) The objective of these regulations is to protect the environment from the adverse effects of the abovementioned waste water discharges.

Interpretation.

3. (1) For the purpose of these regulations and unless the context otherwise requires:-

"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;

"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 regulations;

"coastal waters" means the waters outside the low-water line or the outer limit of an estuary;

"collecting system" means a system of conduits which collects and conducts urban waste water;

"competent authority" means the Department for Environment Protection under the guidance of the Director for Environment Protection and such other body or person as the Minister responsible for the environment may by order in the Gazette prescribe and different bodies or persons may be designated as the competent authority for different provisions and different purposes of these regulations;

"domestic waste water" means waste water from residential settlements and services which originates predominantly from the human metabolism and from household activities;

"estuary" means the transitional area between fresh-water and coastal waters; the authorities shall establish the outer (seaward) limits of estuaries for the purposes of these regulations;

"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;

"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;

"1 population equivalent" means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day;

"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 BOD5 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 %;

"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;

"sludge" means:

residual ludge from sewage plants treating domestic or urban waste waters and from other sewage plants treating waste waters of a composition similar to domestic and urban waste waters;

residual sludge from septic tanks and other similar installations for the treatment of sewage;

residual sludge from sewage plants other than those referred to in paragraphs (i) and (ii) hereof;

"urban waste water" means domestic waste water or the mixture of domestic waste water with industrial waste water and/or run-off rain water.

Agglomerations to be provided with collecting systems.

4. (1) The competent authority shall ensure that all agglomerations are provided with collecting systems for urban waste water according to these categories:

(a) those with a population equivalent of more than 15,000, and

(b) those with a population equivalent of between 2,000 and 15,000:

Provided that the discharge of urban waste water into receiving waters which are considered 'sensitive areas' as defined by the competent authority under regulation 6 of these regulations shall ensure that collection systems are provided for agglomerations of more than 10,000 population equivalent:

Provided further that, 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.

(2) Collecting systems described in sub-regulation (1) shall satisfy the requirements of Annex I (A).

Secondary treatment.

5. (1) The competent authority shall ensure that urban waste water entering collecting systems shall before discharge, be subject to

secondary treatment or an equivalent treatment according to these categories:

(a) all discharges from agglomerations of more than 15,000 population equivalent,

(b) all discharges from agglomerations of between 10,000 and 15,000 population equivalent,

(c) discharges to fresh-water and estuaries from agglomerations of between 2,000 and 10,000 population equivalent.

(2) Discharges from urban waste water treatment plants described in sub-regulation (1) shall satisfy the relevant requirements of Annex I (B).

(3) The load expressed in population equivalent 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.

Discharge into sensitive areas.

6. (1) For the purposes of sub-regulation (2), the competent authority shall identify sensitive areas according to the criteria laid down in Annex II.

(2) The competent authority 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 regulation 4, for all discharges from agglomerations of more than 10,000 population equivalent.

(3) Discharges from urban waste water treatment plants described in sub-regulation 2 shall satisfy the relevant requirements of Annex I (B).

(4) Alternatively, requirements for individual plants set out in sub-regulations (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 sub-regulations (2), (3) and (4).

(6) The competent authority shall ensure that the identification of sensitive areas is reviewed at intervals of no more than four years.

(7) The competent authority shall ensure that areas identified as sensitive following review under sub-regulation (6) shall meet the above requirements.

(8) The competent authority does not have to identify sensitive areas for the purpose of these regulations if it implements the treatment established under sub-regulations (2), (3) and (4).

Identification of less sensitive areas.

7. (1) For the purposes of sub-regulation (2), the competent authority may 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 population equivalent to coastal waters and those from agglomerations of between 2,000 and 10,000 population equivalent to estuaries situated in areas described in sub-regulation (1) may be subjected to treatment less stringent than that prescribed in regulation 5 provided that such discharges receive at least primary treatment as defined in sub-regulation (7) of regulation 2 in conformity with the control procedures laid down in Annex I (D) and comprehensive studies indicate that such discharges will not adversely affect the environment.

(3) The competent authority shall ensure that the identification of less sensitive areas is reviewed at intervals of not more than four years from when they are identified.

(4) The competent authority shall ensure that areas no longer identified as less sensitive shall meet the requirements of regulations 5 and 6, as appropriate.

Appropriate treatment.

8. The competent authority shall ensure that, urban waste water entering collecting systems shall before discharge be subject to appropriate treatment as defined in sub-regulation (9) of regulation 3 in the following cases:

(a) for discharges to fresh-water and estuaries from agglomerations of less than 2,000 population equivalent,

(b) for discharges to coastal waters from agglomerations of less than 10,000 population equivalent.

9. 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 population equivalent may be subject to the treatment provided for in regulation 7 for waste water from agglomerations of between 10,000 and 150,000 population equivalent. Exception.

10. The competent authority shall ensure that the urban waste water treatment plants built to comply with the requirements of regulations 5, 6, 7 and 8 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. Plants to be built in compliance with these regulations.

11. (1) Without prejudice to any other laws and authorisation the competent authority shall ensure that: Duties of competent authority.

(a) the discharge of industrial waste water into collecting systems and urban waste water treatment plants satisfies the requirement of Annex I (C);

(b) discharges from urban waste water treatment plants made within agglomerations of 2,000 to 10,000 population equivalent in case of discharges of fresh waters and estuaries shall satisfy the relevant requirements of Annex I (B).

(2) The competent authority shall ensure that treated waste water shall be reused whenever appropriate. Disposal routes shall minimize the adverse effects on the environment.

12. (1) The competent authority shall ensure that 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 population equivalent or more. Waste water.

(2) The competent authority shall set requirements appropriate to the nature of the industry concerned for the discharge of such waste water.

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

(2) The competent authority shall ensure that the disposal of sludge from urban waste water treatment plants is subject to general rules or registration or authorization.

(3) The competent authority shall ensure that 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 sub-regulation (3), the competent authority 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.

Monitoring by the competent authority.

14. (1) The competent authority and any other appropriate bodies as may be notified by order by the Minister in the Gazzette shall monitor:

(a) 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),

(b) amounts and composition of sludges disposed of to surface waters.

(2) The competent authority shall monitor waters subject to discharges from urban waste water treatment plants and direct discharges as described in regulation 12 of these regulations 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 regulation 6 and in the case of disposal of sludge to surface waters, the competent authority shall monitor and carry out any other relevant studies to verify that the discharge or disposal does not adversely affect the environment.

Situation reports.

15. (1) The competent authority 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.

(2) The competent authority shall determine the methods and formats to be adopted for reporting under sub-regulation (1) hereof.

Offences under these regulations.

16. Any person shall be guilty of an offence under these regulations if:

(a) he fails to comply with any order lawfully given in terms of any provisions of these regulations; or

(b) he contravenes any restrictions, prohibition or requirement imposed by or under these regulations; or

(c) he conspires or attempt, or aids, or abets, any other person by whatever means, including advertising, counseling or procurement to comply with any order lawfully given in terms of any of the provisions of these regulation, or to contravene any restriction, prohibition or requirement imposed by or under the said regulations.

Penalties.

17. Any person who commits an offence against these regulations shall, on conviction, be liable:

(a) on a first conviction to a fine (*multa*) of not less than five hundred liri but not exceeding one thousand liri

(b) on a second or subsequent conviction, to a fine (*multa*) of not less than one thousand liri, but not exceeding two thousand liri or to imprisonment for a term not exceeding two years, or to both such fine and imprisonment:

Provided further that the court shall order any person who has been found guilty of committing an offence against these regulations to pay for the expenses incurred by the public entities and/or other persons acting on their behalf involved in the implementation of these regulations and restitution of the environment as a result of the said offence, the revocation of the permit issued by the Police and the confiscation of the *corpus delicti*.

Applicability of the Criminal Code. Cap. 9.

18. (1) The provisions of article 23 and sub-article (1) of article 30 of the Criminal Code shall, *mutatis mutandis*, apply to proceedings, in respect of offences against these regulations, so however that the disqualification from holding or obtain a licence, permit or authority shall in no case be for less than one year.

(2) Notwithstanding the provisions of article 370 of the Criminal Code, proceedings for an offence against these regulations shall be taken before the Court of Magistrates (Malta) or the Court of Magistrates (Gozo), as the case may be, and shall be in accordance with the provisions of the Criminal Code regulating the procedure before the said courts as courts of criminal judicature.

(3) Notwithstanding the provisions of the Criminal Code, the Attorney General shall always have a right of appeal to the Court of Criminal Appeal from any judgement given by the Court of Magistrates (Malta) or the Court of Magistrates (Gozo) in respect of proceedings for any offence against these regulations.

Language of Annexes.

19. The Annexes to these regulations are being published in the English language with the English text of these regulations.

ANNEX I

REQUIREMENTS FOR URBAN WASTE WATER

A. Collecting systems[1]

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 2

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 IIA (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

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[1] Given that it is not possible 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] Ibid.

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 regulations,

- ensure that sludge can be disposed of safety in an environmentally acceptable manner.

D. Reference methods for monitoring and evaluation of results

1. The competent authority 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.

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 these regulations.

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 theprovisions of the Directiveġ 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 3 (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 3 (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.

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 (1)	Reference method of measurement
Biochemical oxygen demand (BOD5 at 20 °C) without nitrification (2)	25 mg/l O_2	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_2	75	Homogenized, unfiltered, undecanted sample Potassium dichromate
Total suspended solids	35 mg/l (3) 35 under Article 4 (2) (more than 10 000 p.e.) 60 under Article 4 (2) (2 000-10 000 p.e.)	90 (3) 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

(1) Reduction in relation to the load of the influent.
(2) 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.
(3) 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.

Table 2: 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 (1)	Reference method of measurement
Total phosphorus	2 mg/l P (10 000 - 100 000 p. e.) 1 mg/l P (more than 100 000 p. e.)	80	Molecular absorption spectrophotometry
Total nitrogen (2)	15 mg/l N (10 000 - 100 000 p. e.) 10 mg/l N (more than 100 000 p. e.) (3)	70-80	Molecular absorption spectrophotometry

(1) Reduction in relation to the load of the influent.

(2) Total nitrogen means: the sum of total Kjeldahl-nitrogen (organic N + NH_4), nitrate (NO_3)-nitrogen and nitrite (NO_2)-nitrogen.

(3) Alternatively, the daily average must not exceed 20 mg/l N. This requirement refers to a water temperature of 12° C or more during the operation of the biological reactor of the waste water treatment plant. As a substitute for the condition concerning the temperature, it is possible to apply a limited time of operation, which takes into account the regional climatic conditions. This alternative applies if it can be shown that paragraph 1 of Annex I.D is fulfilled.

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 may 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 regulations concerning the quality required of surface water intended for the abstraction of drinking water if action is not taken;

(c) areas where further treatment than that prescribed in Article 5 of these regulations is necessary to fulfill other regulations.

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, the competent authority shall take into account the risk that the discharged load may be transferred to adjacent areas where it can cause detrimental environmental effects. The competent authority shall recognize the presence of sensitive areas *outside its* 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 duc 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
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

[1] Given that it is not possible 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] Ibid.