



SUPPLEMENT No. 2
TO
THE SOVEREIGN BASE AREAS GAZETTE
No. 1257 of 10th September 2002
LEGISLATION

ORDINANCE 22 OF 2002

AN ORDINANCE
TO PROVIDE FOR THE MONITORING AND CONTROL
OF THE QUALITY OF WATER INTENDED FOR
HUMAN CONSUMPTION IN ORDER TO PROTECT
HUMAN HEALTH FROM THE ADVERSE EFFECTS OF
CONTAMINATION OF SUCH WATER BY ENSURING
THAT IT IS WHOLESOME AND CLEAN

D.E. RADCLIFFE
ACTING ADMINISTRATOR

19th August 2002.

BE it enacted by the Administrator of the Sovereign Base Areas of Akrotiri and Dhekelia as follows:-

1. This Ordinance may be cited as the Quality of Water Intended for Human Consumption Ordinance 2002.

Short title.

2. - (1) In this Ordinance, unless the context otherwise requires:-

Interpretation.

“Community Council” means a Council established in accordance with the Communities Law of the Republic or the Akrotiri Community Ordinance;

Law 86(I) 1999 of the Republic, Ordinances 23 and 24 of 2001.

“competent laboratory” means the General Laboratory or any laboratory approved by the Chief Officer pursuant to section 11(2) for the purposes of carrying out analyses of samples;

“consumer” means any person to whom water intended for human consumption is supplied by a water supplier;

“distribution” means distribution with or without payment;

“food” means food as defined by the Food (Sale and Control) Ordinance;

Ordinances 5 and 25 of 2000.

“food-production undertaking” means any undertaking involving the manufacture, processing or preservation of food intended for marketing, for which water may be used;

“General Laboratory” means the General Laboratory of the Ministry of Health of the Republic;

“Inspector” means any Inspector, including the Chief Inspector, appointed under section 7;

“internal distribution system” means the pipework, fittings and appliances which have been installed between the taps that are normally used for the human consumption of water and the public distribution network, but only if such pipework, fittings and appliances are not the responsibility of the water supplier in its capacity as a water supplier;

“Municipal Council” means a Council established in accordance with the Municipalities Law of the Republic;

“parameter” means a property, element, organism or substance listed in column 1 of the table in Part A, B or C of Schedule I, as interpreted in the light of the notes to those tables;

“public distribution network” means the pipework, fittings and appliances used by the water supplier for the conveyance of water to members of the public for their consumption;

“samples” means samples of water taken in accordance with section 9;

“Water Board” means the Water Board established under the Water Supply to Municipal and other Areas Law of the Republic;

“water intended for human consumption” means:-

- (a) all water, either in its original state or after treatment, intended for drinking, cooking, food preparation or other domestic purposes, regardless of its origin or whether it is supplied from a distribution network, from a tanker, or in bottles or containers;
- (b) all water used in any food-production undertaking, except where the Chief Inspector is satisfied that the quality of such water cannot affect the wholesomeness of any foodstuff in its final form;

“water supplier” means any person who supplies water intended for human consumption including:-

- (a) the Department of Water Development of the Ministry of Agriculture, Natural Resources and Environment of the Republic;
- (b) any Water Board;
- (c) any Municipal or Community Council;
- (d) any person who runs a water bottling business;
- (e) any person who runs a business of selling water from a tanker;
- (f) the Crown in right of Her Majesty’s government in the United Kingdom;

“water supply zone” means a geographically defined area designated by the Director of the Department of Water Development and the appropriate District Officer in accordance with Republican Law, within which area water intended for human consumption comes from one or more sources and within which water quality may be considered as being approximately uniform;

Law 111/1985 of
the Republic.

Schedule I.

CAP 350 and
Laws 25/1972,
31/1982,
172/1988 of the
Republic.

“wholesome and clean”, in relation to the quality of water intended for human consumption, shall be construed in accordance with section 4(2).

(2) Where any note in any of the Schedules conflicts with any other provision in this Ordinance, the note shall prevail.

3. – (1) Subject to subsection (2) below, this Ordinance shall apply to and in relation to the supply of water intended for human consumption by any water supplier.

Application.

(2) This Ordinance shall not apply to:-

- (a) natural mineral water, as defined in the Food (Sale and Control) Ordinance;
- (b) water which is a medicinal product, as defined in the Medicines for Human Use (Control of Quality, Supply and Prices) Law of the Republic.

Law 54(I) /1996 of the Republic, and Ordinances 5 and 25 of 2000.
Law 70(I) /2001 of the Republic.

(3) The Chief Officer may by notice in writing exempt any water which is exclusively intended for a purpose in relation to which the Chief Officer is satisfied that the quality of such water has no effect, whether directly or indirectly, on the health of the consumers concerned.

4. – (1) Subject to subsection (3) below, the supply of water intended for human consumption is prohibited unless the water is wholesome and clean.

Prohibition on supply of unwholesome water.

(2) Water intended for human consumption shall be considered wholesome and clean if:-

(a) it does not contain:-

- (i) any micro-organism or parasite; or
- (ii) any substance,

at a concentration or value which would constitute a potential danger to human health;

(b) it does not contain any of the parameters listed in the tables in Parts A, B and C of Schedule I at a concentration or value in excess of or, as the case may be, less than the prescribed concentration or value; and

Schedule I.

(c) all other measures necessary to ensure that such water complies with the requirements of this Ordinance are taken.

(3) Notwithstanding subsection (1) above, the Chief Officer may, authorise in writing any water supplier to supply water which does not comply with any of the parametric values in the table in Part A or the table in Part B of Schedule I, where he is satisfied that:-

(a) the non-compliance is due to:-

- (i) emergency conditions,
- (ii) unusual meteorological conditions; or
- (iii) the nature or structure of the soil in the area of origin of the water; or

(b) the water is to be used exclusively for the manufacture of food; and

- (c) the use of such water will not endanger human health; and
- (d) the supply of water intended for human consumption in the area affected cannot otherwise be maintained by any other reasonable means.

(4) An authorisation under subsection (3) above:-

(a) shall specify:-

- (i) the maximum permissible value of each of the parameters concerned; and
- (ii) the maximum period of time during which the water may continue to be supplied, which period shall be as short a time as possible and, in any event, shall not exceed three years; and

(b) may impose any other condition or restriction with respect to the supply of water concerned, including any measures which must be taken to restore water quality and restrict human consumption of it in the meantime.

(5) The Chief Officer may authorise in writing any water supplier to supply water which does not comply with any of the parametric values listed in the table in Part C of Schedule I, where he is satisfied that the use of such water will not endanger human health.

(6) An authorisation granted in accordance with subsection (5) above may:-

- (a) specify the maximum permissible value of each of the parametric values concerned;
- (b) the maximum period of time during which the water may continue to be supplied;
- (c) impose any other condition or restriction with respect to the supply of the water concerned, including any measures which must be taken to restore water quality and restrict human consumption of it in the meantime.

5. Every water supplier shall take the necessary measures to ensure that the water he supplies to the public is wholesome and clean and for this purpose shall comply with any relevant directions given by any Inspector.

6. - (1) The Chief Officer shall be the competent authority for the purposes of this Ordinance and it shall be his duty to ensure that water intended for human consumption is monitored in accordance with this Ordinance.

(2) For the purposes of this Ordinance, the Chief Officer:-

- (a) may delegate, the power to exercise any of his functions under this Ordinance, for all or any purpose specified by him, to any person or authority;
- (b) may give such directions as he may consider necessary or desirable to achieve the purposes of this Ordinance.

7. The Chief Officer may, by notification to be published in the Gazette, appoint:-

General obligation
of water suppliers.

Competent
authority.

Chief Officer's
general power to
delegate his
functions and make
orders.

Appointment of
Chief Inspector
and Inspectors.

- (a) as Inspectors, for the purposes of carrying into effect this Ordinance and any regulations made thereunder, such numbers of persons appearing to him to be qualified for the purpose as he may consider necessary; and
- (b) a Chief Inspector to oversee the work of the Inspectors.

8. - (1) Subject to subsection (2) below, any Inspector may, on production of his authority to do so (if so required), enter, at any reasonable time, any premises or place where water is supplied for human consumption for the purpose of:-

Powers of Inspectors.

- (a) carrying out any examination, measurement or test with respect to the quality of such water; or
- (b) taking samples of such water or samples of any substance, fitting, appliance or material which forms part of an internal distribution system or which is used for the preparation, treatment or conveyance of water.

(2) Entry into a dwelling house for any of the purposes of subsection (1) above shall require the consent of any person over the age of eighteen years who resides there.

(3) Every water supplier shall provide the Inspectors with the necessary facilities for the exercise of their powers.

9. - (1) The Chief Inspector shall ensure that the water in all areas of the Sovereign Base Areas is check monitored and audit monitored by his Inspectors in accordance with the provisions of this section.

Monitoring of water.

(2) Check monitoring shall be carried out by means of the sampling and analysis of water in accordance with paragraph 1 of Schedule II for the purpose of providing information on:-

Schedule II.

- (a) the organoleptic and microbiological quality of the water supplied for human consumption; and
- (b) the effectiveness of drinking-water treatment (particularly of disinfection of the water where such disinfection forms part of the production, treatment or distribution process), in order to determine whether or not water intended for human consumption complies with the relevant parametric values.

(3) Audit monitoring shall be carried out by means of the sampling and analysis of water in accordance with paragraph 2 of Schedule II for the purpose of providing the information necessary to determine whether the water complies with all of the parametric values specified in Schedule I.

(4) Where the water intended for human consumption is supplied from a public distribution network or a tanker or is used in a food-production undertaking, the minimum frequency of sampling and analysis of water for the purposes of subsections (2) and (3) above shall be that specified in Table B1 of Schedule II.

(5) Where the water intended for human consumption is put into bottles or containers intended for sale, the minimum frequency of sampling and analysis for the purposes of subsections (2) and (3) above shall be that specified in Table B2 of Schedule II.

(6) The samples of water referred to in this section shall be taken from the sampling points specified in section 10 and delivered to a competent laboratory for the relevant analyses to be carried out in accordance with section 11(3).

(7) The Inspector shall take the necessary measures to ensure that any samples taken in accordance with subsections (2) or (3) above:-

- (a) do not suffer any deterioration whilst in his possession; and
- (b) are delivered to the competent laboratory as soon as possible and, in any case, within twenty four hours of the time they were taken.

Sampling points.

10. – (1) The samples referred to in section 9, shall be taken at the following sampling points:-

- (a) in the case of water supplied from a public distribution network, subject to subsection (2) below, at the point within the premises where it emerges from the taps that are normally used to supply water for human consumption;
- (b) in the case of water supplied from a tanker, at the point where it emerges from the tanker;
- (c) in the case of water supplied in bottles or containers, at the point where the water is put into the bottles or containers;
- (d) in the case of water used in a food-production undertaking, at the point where the water is used in the undertaking.

(2) Notwithstanding paragraph (a) of subsection (1) above, the Chief Officer may, authorise samples to be taken for the monitoring of specific parameters:-

- (a) within the relevant water supply zone; or
- (b) at the relevant treatment works,

where he is satisfied that there would be no adverse change to the measured value of the parameters concerned.

11. – (1) The General Laboratory and any laboratory authorised pursuant to sub-section (2) below shall be competent laboratories for the purposes of this Ordinance.

(2) Where he is satisfied that it is competent to perform the task, the Chief Officer may, authorise one or more laboratories to carry out analyses of samples collected by any Inspector under this Ordinance.

(3) Every competent laboratory shall ensure that:-

- (a) it has a system of analytical quality control which functions properly at all times;
- (b) the samples delivered to it by or on behalf of any Inspector are:-
 - (i) analysed promptly; and
 - (ii) in accordance with:-
 - (aa) Schedule III; and
 - (bb) any directions given by the General Laboratory; and

Authorisation and functions of competent laboratories.

- (c) the results of the analyses are sent to the Chief Inspector, without delay.

12. – (1) The Chief Officer shall appoint one or more competent persons to examine, from time to time, the system of analytical quality control used by every competent laboratory authorised by him pursuant to section 11(2).

Quality control of competent laboratories by competent persons.

(2) Every competent person shall perform his duties in an independent manner and in accordance with the terms of his appointment.

(3) For the purposes of this section, “competent person” means a person who is suitably qualified to perform the duties assigned to him and who is not under the control of any competent laboratory or any water supplier.

13. – (1) Subject to subsection (2) below, if, as a result of the analyses of any sample taken from any premises which are supplied with water from a public distribution network, it is established that:-

Failings in internal distribution systems.

- (a) the water is not wholesome and clean insofar as it does not comply with section 4(2)(b); and
- (b) this non-compliance is due exclusively to a failing within the internal distribution system of the premises concerned,

the Inspector shall:-

- (i) inform the owner of the premises of the said findings and of the potential danger to the health of any person using water from such premises; and
- (ii) give the owner of the premises directions regarding the measures that must be taken to eliminate such danger and any other advice which he considers appropriate in the circumstances.

(2) If, as a result of the analyses of any sample taken from any premises or place used by members of the public (including any school, hospital, playground or restaurant) which is supplied with water from a public distribution network, it is established that:-

- (a) the water is not wholesome and clean; and
- (b) this is due exclusively to a failing within the internal distribution system of the premises or place concerned, the Inspector shall inform the occupier of the said premises or place and the water supplier concerned of the said findings and where he thinks that the use of such water may endanger human health, shall:-
 - (i) direct the water supplier to terminate the supply of water to the premises or place until such time as the water quality is restored;
 - (ii) direct the water supplier to ensure that members of the public who may have used the water are informed about the potential danger to their health; and
 - (iii) direct the occupier of the premises or place concerned to:-

- (aa) draw up, in consultation with the Inspector, a plan for the necessary remedial action to be taken, which plan shall include a timetable for the work; and
- (bb) implement the plan in accordance with that timetable,

for the purposes of ensuring that the water quality is restored.

Measures to
protect health and
to restore water
quality.
Schedule I.

14. – (1) If, as a result of the analyses of any sample taken in accordance with this Ordinance, it is established that the value of any of the parameters referred to in column 1 of the table in Part A or the table in Part B of Schedule I, deviates from the value prescribed for such parameter in column 2 of the relevant table, the Chief Officer shall, without delay:-

- (a) inform those members of the public who may be affected, of any potential danger to their health; and
- (b) inform the water supplier of the said findings and instruct him to take specific measures in order to:-
 - (i) restore the quality of the water; and
 - (ii) in the meantime, take measures to protect human health, which measures may include, where appropriate, interrupting the supply or restricting the use of the water.

(2) If, as a result of the analyses of any sample taken, it is established that the value of any of the parameters referred to in column 1 of the table in Part C of Schedule I, deviates from the value prescribed for such parameter in column 2 of the said table, the Chief Officer shall, without delay:-

- (a) examine whether this creates any danger to human health, having regard to:-
 - (i) the degree of deviation from the prescribed parametric value; and
 - (ii) the likely duration of the deviation; and
- (b) inform the water supplier of the said findings and instruct him to take specific measures in order to restore the quality of the water.

(3) Upon receipt of any information and instructions from the Chief Officer pursuant to subsection (1)(b) or subsection (2)(b) above, the water supplier shall take the measures specified by the Chief Officer, without delay.

(4) Where any water supplier takes measures to restore the quality of water supplied by him pursuant to subsection (3) above, he shall ensure that those members of the public who are likely to be affected are informed of the measures taken, unless the Chief Officer and the water supplier agree that the deviation from the prescribed parametric value is trivial.

15. Where the Chief Officer ascertains or has reason to believe that the water supplied by any water supplier contains any micro-organism or substance which, even though it is not a parameter, is present at a concentration or value which would constitute a potential danger to human health, he shall:-

Additional
monitoring and
measures to
eliminate danger to
health.

- (a) arrange for the Inspectors to carry out additional monitoring of the water;
- (b) inform the water supplier of his belief and instruct him to take either those measures specified by him or any other appropriate measures in order to eliminate the danger; and
- (c) arrange for the Inspectors to monitor the effectiveness of the measures taken by the water supplier.

16. – (1) For the purposes of ensuring that information on the quality of water intended for human consumption is made available to consumers, the Chief Officer shall:-

Publication of up-to-date information and publication of triennial report.

- (a) arrange for the publication, in at least two daily newspapers on a regular basis, of adequate and up-to date information concerning the general condition of the quality of water intended for human consumption supplied to consumers by the water suppliers; and
- (b) publish a report every three years on the quality of water intended for human consumption in the Sovereign Base Areas, which report shall be published within one calendar year of the end of the three-year period to which it relates.

(2) The report referred to in subsection (1)(b) above shall include the average results of the analyses for each of the parametric values concerning all quantities of water supplied to consumers during the three-year period by:-

- (a) each of the Water Boards; and
- (b) any of the Community Councils, where the number of consumers within the boundaries thereof exceeds five thousand.

17. Any person who obstructs in any way an Inspector in the exercise of any of his duties under this Ordinance or any regulations made thereunder, shall be guilty of an offence, and on conviction, shall be liable to:-

Obstruction of an Inspector an offence.

- (a) a term of imprisonment not exceeding six months;
- (b) a fine not exceeding one thousand pounds; or
- (c) both such penalties.

18. The Administrator may make regulations for the better application of this Ordinance and, in particular, for the regulation of any of the following matters:-

Power to make Regulations.

- (a) the imposition of obligations or giving of powers to water suppliers for the purpose of ensuring or maintaining the quality of water;
- (b) the giving of any additional powers to the Chief Inspector or the Inspectors for the better exercise of their duties;
- (c) the taking of any measures, not provided for in any other Ordinance or regulations, for the prevention of pollution of or any deterioration in the quality of water intended for human consumption;
- (d) the imposition of specifications with respect to the quality of water supplied from public distribution networks and

internal distribution systems; and any substances used in the preparation or disinfection of such water; the regulation of any matters concerning the use of such networks, systems and substances; and the appointment of persons to determine the specifications;

- (e) the imposition of specific conditions or restrictions which the Chief Officer may impose pursuant to section 4(4)(b);
- (f) the prescription of the means of informing consumers and the public in general with respect to any matter relating to the measures taken under this Ordinance for the protection of their health or the restoration of water quality;
- (g) any other matter which may require to be regulated for the better application of this Ordinance.

Quality of water
shall not be
downgraded.

19. Any measures taken for the purpose of complying with the provisions of this Ordinance must not have the effect of allowing, directly or indirectly, any deterioration in the quality of water intended for human consumption or any increase in the pollution of any water used for the production of water intended for human consumption.

Amendment of
Schedules by
Order.

20. Schedules I, II, and III to this Ordinance may be amended by the Chief Officer, by order to be published in the Gazette.

Application to
Crown.

21. This Ordinance shall bind the Crown in its capacity as a water supplier.

Commencement.

22. This Ordinance shall come into force on a date to be decided by the Administrator, by order to be published in the Gazette.

SCHEDULE I

(Sections 2(1) and 4)

PARAMETERS AND PARAMETRIC VALUES**PART A****Microbiological Parameters**

<i>Column 1</i>	<i>Column 2</i>
<i>Parameter</i>	<i>Parametric value (number/100 ml)</i>
Escherichia coli (E.coli)	0
Enterococci	0

The following microbiological parameters apply only to water offered for sale in bottles or containers:

<i>Column 1</i>	<i>Column 2</i>
<i>Parameter</i>	<i>Parametric value</i>
Escherichia coli (E.coli)	0/250 ml
Enterococci	0/250 ml
Pseudomonas aeruginosa	0/250 ml
Colony count 22 °C	100/ml
Colony count 37 °C	20/ml

PART B**Chemical Parameters**

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Parameter</i>	<i>Parametric value</i>	<i>Unit</i>	<i>Notes</i>
Acrylamide	0.10	µg/l	Note 1
Antimony	5.00	µg/l	
Arsenic	10.00	µg/l	
Benzene	1.00	µg/l	
Benzo(a)pyrene	0.01	µg/l	
Boron	1.00	mg/l	
Bromate	10.00	µg/l	Note 2
Cadmium	5.00	µg/l	
Chromium	50.00	µg/l	Note 3
Copper	2.00	mg/l	Note 3
Cyanide	50.00	µg/l	
1,2-dichloroethane	3.00	µg/l	
Epichlorohydrin	0.10	µg/l	Note 1
Fluoride	1.50	mg/l	
Lead	10.00	µg/l	Notes 3 and 4
Mercury	1.00	µg/l	
Nickel	20.00	µg/l	Note 3
Nitrate	50.00	mg/l	Note 5
Nitrite	0.50	mg/l	Note 5
Pesticides	0.10	µg/l	Notes 6 and 7
Pesticides – Total	0.50	µg/l	Notes 6 and 8
Polycyclic aromatic hydrocarbons	0.10	µg/l	Sum of concentrations of specified compounds; Note 9
Selenium	10.00	µg/l	
Tetrachloroethene and Trichloroethene	10.00	Mg/l	Sum of concentrations of specified parameters
Trihalomethanes – Total	100.00	Mg/l	Sum of concentrations of specified compounds; Note 10
Vinyl Chloride	0.50	Mg/l	Note 1

- Note 1: The parametric value shall refer to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water.
- Note 2: Where possible, without compromising disinfection, the water supplier should strive for a lower value.
For the water referred to in section 6 (1)(a), (b) and (d), the value shall be satisfied, at the latest eight calendar years after the entry into force of this Ordinance. The parametric value for bromate from three years after the entry into force of this Ordinance until eight years after its entry into force shall be 25 µg/l.
- Note 3: The value shall apply to a sample of water intended for human consumption obtained by an adequate sampling method at the tap and taken so as to be representative of a weekly average value ingested by consumers. Where appropriate the sampling and monitoring methods shall be applied in a harmonised fashion specified by the Chief Officer who shall take account of the occurrence of peak levels that may cause adverse effects on human health.
- Note 4: For water referred to in section 3 (1) (a), (b) and (d), the value shall be satisfied, at the latest 13 calendar years after the entry into force of this Ordinance. The parametric value for lead from three years after the entry into force of this Ordinance until thirteen years after its entry into force shall be 25 µg/l.
Every water supplier shall ensure that all appropriate measures are taken to reduce the concentration of lead in water intended for human consumption as much as possible during the period needed to achieve compliance with the parametric value.
When implementing the measures to achieve compliance with that value the water supplier shall progressively give priority where lead concentrations in water intended for human consumption are highest.
- Note 5: The water supplier shall ensure that the condition that $(\text{nitrate})/50 + (\text{nitrite})/3 \leq 1$, the brackets signifying the concentrations in mg/l for nitrate (NO₃) and nitrite (NO₂), is complied with and that the value of 0.10 mg/l for nitrites is complied with ex water treatment works.
- Note 6: "Pesticides" mean:
 - organic insecticides,
 - organic herbicides,
 - organic fungicides,
 - organic nematocides,
 - organic acaricides,
 - organic algicides,
 - organic rodenticides,
 - organic slimicides,
 - related products (inter alia, growth regulators) and their relevant metabolites, degradation and reaction products.

Only such pesticides which are likely to be present in a given supply shall be monitored.

- Note 7: The parametric value shall apply to each individual pesticide. In the case of aldrin, dieldrin, heptachlor and heptachlor epoxide the parametric value shall be 0.03 µg/l.
- Note 8: "Pesticides- total" means the sum of all individual pesticides detected and quantified in the monitoring procedure.
- Note 9: The specified compounds are:
- benzo(b) fluoranthene,
 - benzo(k)fluoroanthene,
 - benzo(ghi) perylene,
 - indeno(1,2,3- cd) pyrene.
- Note 10: (1) Where possible, without compromising disinfection, the water supplier should strive for a lower value.
- (2) The specified compounds are:-
- chloroform,
 - bromoform,
 - dibromochloromethane,
 - bromodichloromethane.
- (3) For the water referred to in section 10 (1) (a), (b) and (d), the value must be met, at the latest, eight calendar years after the coming into force of this Ordinance. The parametric value for the total Trihalomethanes three years after the coming into force of this Ordinance shall be 150 µg/l.
- (4) Every water supplier shall ensure that all appropriate measures are taken to reduce the concentrations of Trihalomethanes in water intended for human consumption as much as possible during the period needed to achieve compliance with the parametric value.
- (5) When implementing the measures to achieve this value, the water supplier shall progressively give priority to those areas where Trihalomethane concentration in the water he supplies are highest.

PART C**Indicator parameters**

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Parameter</i>	<i>Parametric value</i>	<i>Unit</i>	<i>Notes</i>
Aluminium	200	µg/l	
Ammonium	0,50	mg/l	
Chloride	250	mg/l	Note 1
Clostridium perfringens (including spores)	0	number 100 ml	Note 2
Colour	Acceptable to consumers and no abnormal change		
Conductivity	2500	µS cm ⁻¹ at 20 °C	Note 1
Hydrogen ion concentration	≥ 6,5 and 9,5	pH units	Notes 1 and 3
Iron	200	µg/l	
Manganese	50	µg/l	
Odour	Acceptable to consumers and no abnormal change		
Oxidisability	5	mg/l O ²	Note 4
Sulphate	250	mg/l	Note 1
Sodium	200	mg/l	
Taste	Acceptable to consumers and no abnormal change		
Colony count 22 °C	No abnormal change		
Coliform bacteria	0	number 100 ml	Note 5
Total organic carbon (TOC)	No abnormal change		Note 6
Turbidity	Acceptable to consumers and no abnormal change		Note 7

RADIOACTIVITY

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Parameter</i>	<i>Parametric value</i>	<i>Unit</i>	<i>Notes</i>
Tritium	100	Bq/l	Notes 8 and 10
Total indicative dose	0,10	mSv/year	Notes 9 and 10

- Note 1: The water should not be aggressive.
- Note 2: This parameter need not be measured unless the water originates from or is affected by surface water. In the event of non-compliance with this parametric value, the Chief Officer shall investigate the supply to ensure that there is no potential danger to human health arising from the presence of pathogenic micro-organisms, such as cryptosporidium. The results of all such investigations shall be included in the report which must be published in accordance with section 16(1)(b).
- Note 3: (1) For still water put into bottles or containers, the minimum value may be reduced to 4,5 pH units.
(2) For water put into bottles or containers which is naturally rich or artificially enriched with carbon dioxide, the minimum value may be lower.
- Note 4: This parameter need not be measured if the parameter "Total organic carbon" is analysed.
- Note 5: For water put into bottles or containers the unit is number/250 ml.
- Note 6: This parameter need not be measured for supplies of less than 10 000 m³ per day.
- Note 7: In the case of surface water treatment, the water supplier should strive for a parametric value not exceeding 1,0 nephelometric turbidity unit (NTU) in the water ex-treatment works.
- Note 8: Monitoring frequencies to be set in accordance with Schedule II.
- Note 9: Excluding tritium, potassium-40, radon and radon decay products, monitoring frequencies, monitoring methods and the most relevant locations for monitoring points to be set in accordance with Schedule II.
- Note 10: The monitoring of drinking water for tritium or radioactivity to establish total indicative dose shall not be necessary where the Chief Officer is satisfied that, on the basis of other monitoring carried out, the levels of tritium of the calculated total indicative dose are well below the parametric value.

SCHEDULE II
(Section 9 and Schedule I)

MONITORING

TABLE A

Parameters to be analysed

1. Check monitoring

(1) The following parameters shall be subject to check monitoring.

Aluminium (necessary only when used as flocculant) (*)

Ammonium

Clostridium perfringens (including spores) (necessary only if the water originates from or is affected by surface water) (*)

Coliform bacteria

Colony count 22 °C and 37 °C (necessary only in the case of water offered for sale in bottles or containers)

Colour

Conductivity

Escherichia coli (*E.coli*)

Hydrogen ion concentration

Iron (necessary only when used as flocculant) (*)

Nitrite (necessary only when chloramination is used as a disinfectant) (*)

Odour

Pseudomonas aeruginosa (necessary only in the case of water offered for sale in bottles or containers)

Taste

Turbidity

(*) In all other cases, the parameters are included in the list for audit monitoring.

(2) The Chief Officer may add other parameters to the list in sub-paragraph (1) above, where he deems it appropriate.

2. Audit monitoring

(1) All parameters specified in Schedule I shall be subject to audit monitoring unless it can be established by the Chief Officer, for a period of time to be determined by him, that a specific parameter is not likely to be present in a given supply in concentrations which could lead to the risk of a breach of the relevant parametric value.

(2) This paragraph shall not apply to the parameters for radioactivity, which, subject to Notes 8, 9, and 10 in Part C of Schedule I, shall be monitored in accordance with alternative monitoring requirements specified by the Chief Officer.

TABLE B1

Minimum frequency of sampling and analyses for water supplied from a public distribution network or from a tanker or used in a food-production undertaking.

<i>Volume of water distributed or produced each day within a water supply zone (Note 1) m³</i>	<i>Check monitoring number of samples per year (Notes 2, 3 and 4)</i>	<i>Audit monitoring number of samples per year (Notes 2 and 4)</i>
≤100	(Note 5)	(Note 5)
> 100 ≤1000	4	1
>1000 ≤10 000	4 + 3 for each 1 000 m ³ /d and part thereof of the total volume	1 +1 for each 3 300m ³ /d and part thereof of the total volume
>10 000 ≤100 000		3 + 1 for each 10 000 m ³ /d and part thereof of the total volume
>100 000		10 + 1 for each 25 000 m ³ /d and part thereof of the total volume

Note 1: (1) The volumes of water are calculated as averages taken over a calendar year.

(2) The Chief Officer may direct that the number of inhabitants in a water supply zone rather than the volume of water shall determine the minimum frequency, assuming a water consumption of 200 l/day/capita.

Note 2: In the event of intermittent short-term supply, the monitoring frequency of water distributed by tankers shall be decided by the Chief Officer.

Note 3: (1) For the different parameters in Schedule I, the Chief Officer may reduce the number of samples specified in the table if:-

- the values of the results obtained from samples taken during a period of at least two successive years are constant and significantly better than the values specified in Schedule I; and
- no factor is likely to cause a deterioration in the quality of the water.

(2) The number of samples taken shall not be less than 50 % of the number of samples specified in the table above, except in the particular case of note 6.

Note 4: As far as possible, the number of samples shall be distributed equally in time and location.

Note 5: The frequency shall be decided by the Chief Officer.

TABLE B2

Minimum frequency of sampling and analysis of water put into bottles or containers intended for sale

<i>Volume of water produced for offering for sale in bottles or containers each day ⁽¹⁾</i>	<i>Check monitoring number of samples per year</i>	<i>Audit monitoring number of samples per year</i>
≤10	1	1
> 10 ≤60	12	1
>60	1 for each 5 m ³ and part thereof of the total volume	1 for each 100 m ³ and part thereof of the total volume

⁽¹⁾ The volumes are calculated as averages taken over a calendar year.

SCHEDULE III

(Section 11(3))

**SPECIFICATIONS FOR THE ANALYSIS OF
PARAMETERS****1. PARAMETERS FOR WHICH METHODS OF ANALYSIS ARE SPECIFIED.**

(1) The following principles for methods of microbiological parameters shall be given:-

(a) for reference whenever a GEN/ISO method is given; or

(b) for guidance, when any such method is not given.

(2) The Chief Officer may direct that alternative methods be used provided it can be demonstrated that the results obtained from such methods are at least as reliable as the results obtained from the methods specified below:

Coliform bacteria and *Escherichia coli* (E.coli) (ISO 9308-1)

Enterococci (ISO 7899-2)

Pseudomonas aeruginosa (prEN ISO 12780)

Enumeration of culturable micro-organisms -

Colony count 22 °C (prEN ISO 6222)

Enumeration of culturable micro-organisms -

Colony count 37°C (prEN ISO 6222)

Clostridium perfringens (including spores)

Membrane filtration followed by anaerobic incubation of the membrane on m-CP agar (Note 1) at 44 °C ± 1 °C for 21 ± 3 hours. Count opaque yellow colonies that turn pink or red after exposure to ammonium hydroxide vapours for 20 to 30 seconds.

Note 1: (1) The composition of m-CP agar is:-

<i>Basal medium</i>	<i>Quantity</i>
Tryptose	30 g
Yeast extract	20 g
Sucrose	5 g
L-cysteine hydrochloride	1 g
MgSO ₄ - 7H ₂ O	0,1 g
Bormocresol purples	40 g
Agar	15 g
Water	1000 ml

(2) Dissolve the ingredients of the basal medium, adjust pH to 7,6 and autoclave at 121°C for 15 minutes. Allow the medium to cool and add:

D-cycloserine	400 mg
Polymyxine-B sulphate	25 µg
Indoxyl b D glucoside to be dissolved in 8 ml sterile water before addition	60 mg
Filter – sterilised 0,5 % phenolphthalein diphosphate solution	20 ml
Filter – sterilised 4,5 % FeCl ₃ -6H ₂ O	2 ml

2. PARAMETERS FOR WHICH PERFORMANCE CHARACTERISTICS ARE SPECIFIED

(1) For the following parameters, the specified performance characteristics are that the method of analysis used must, as a minimum, be capable of measuring concentrations equal to the parametric value with a trueness, precision, and limit of detection specified.

(2) Whatever the sensitivity of the method of analysis used, the result must be expressed using at least the same number of decimals as for the parametric value specified in Parts B and C of Schedule I.

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
<i>Parameter</i>	<i>Trueness % of parametric value (Note 1)</i>	<i>Precision % of parametric value (Note 2)</i>	<i>Limit of detection % of parametric value (Note 3)</i>	<i>Conditions</i>	<i>Notes</i>
Acrylamide				To be controlled by product specification	
Aluminium	10	10	10		
Ammonium	10	10	10		
Antimony	25	25	25		
Arsenic	10	10	10		
Benzo(a)pyrene	25	25	25		
Benzene	25	25	25		
Boron	10	10	10		
Bromate	25	25	25		
Cadmium	10	10	10		
Chloride	10	10	10		
Chromium	10	10	10		
Conductivity	10	10	10		
Copper	10	10	10		
Cyanide	10	10	10		Note 4
1,2dichloroethane	25	25	10		
Epichlorohydrin				To be controlled by product specification	
Fluoride	10	10	10		
Iron	10	10	10		
Lead	10	10	10		
Manganese	10	10	10		
Mercury	20	10	20		

Nickel	10	10	10	
Nitrate	10	10	10	
Nitrite	10	10	10	
Oxidisability	25	25	10	Note 5
Pesticides	25	25	25	Note 6
Polycyclic aromatic hydrocarbons	25	25	25	Note 7
Selenium	10	10	10	
Sodium	10	10	10	
Sulphate	10	10	10	
Tetrachloroethene	25	25	10	Note 8
Trichloroethene	25	25	10	Note 8
Trihalomethanes-				
Total	25	25	10	Note 7
Vinyl chloride				To be controlled by product specification

(3) For hydrogen ion concentration the specified performance characteristics are that the method of analysis used must be capable of measuring concentrations equal to the parametric value with a trueness of 0,2 pH unit and a precision of 0,2 pH unit.

Note 1: "Trueness" is the systematic error and is the difference between the mean value of the large number of repeated measurements and the true value. This term is further defined in ISO 5725.

Note 2: "Precision" is the random error and is usually expressed as the standard deviation (within and between batch) of the spread of results about the mean. Acceptable precision is twice the relative standard deviation. This term is further defined in ISO 5725.

Note 3: "Limit of detection" is:-

(a) three times the relative within batch standard deviation of a natural sample containing a low concentration of the parameter; or

(b) five times the relative within batch standard deviation of a blank sample.

Note 4: The method must determine total cyanide in all forms.

Note 5: Oxidation shall be carried out for ten minutes at 100 °C under acid conditions using permanganate.

Note 6: (1) The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned.

(2) The limit of detection may not be achievable for all pesticides at present, but competent laboratories should strive to achieve this standard.

Note 7: The performance characteristics apply to the individual substances specified at 25 % of the parametric value in Schedule I.

Note 8: The performance characteristics apply to the individual substances specified at 50 % of the parametric value in Schedule I.

3. PARAMETERS FOR WHICH NO METHOD OF ANALYSIS IS SPECIFIED

Colour

Odour

Taste

Total Organic Carbon

Turbidity (Note1)

Note 1: For turbidity monitoring in treated surface water the specified performance characteristics are that the method of analysis must, as a minimum, be capable of measuring concentrations equal to the parametric value with a trueness of 25 %, precision of 25 % and a 25 % limit of detection.

19th August 2002
(121/15)

D.J. BONNER,
Chief Officer.
