Manual of European Environmental Policy

The following pages are a section from the Manual of European Environmental Policy written by the Institute for European Environmental Policy.

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This section is the text of the Manual as published in 2012. It is therefore important to note the following:

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Drinking water

Formal reference	
80/778/EEC (OJ L229 30.08.1980)	Directive relating to the quality of water intended for human consumption
Proposed 22.7.75 – COM(75)394	
Legal base	Articles 115 TFEU (originally Article 100 Treaty) and 352 TFEU (originally Article 235 EEC Treaty)
Formal reference	
98/83/EC (OJ L330 5.12.1998)	Directive on the quality of water intended for human consumption
Proposed 4.1.95 – COM(94)612	
OJ L111/31 20.4.2001	Corrigendum
Legal base	Article 14 TEU (originally Article 130s EEC Treaty)
Binding dates: Directive 98/83/EC	
Notification date	25 December 1998
Formal compliance	25 December 2000
Repeal of Directive 80/778/EEC	25 December 2003
Standards to be met	25 December 2003 (unless derogations made or delay granted)
(except: bromate	25 December 2008 (with intermediate standard 25 December 2003)
lead	25 December 2013 (with intermediate standard 25 December 2003)
trihalomethanes)	25 December 2008 (with intermediate standard 25 December 2003)
OJ L334 28.12.2001	Recommendation on protection against exposure to radon in drinking waterDirective 80/778/EEC was repealed by Directive 98/83/EC on 25 December 2003.

Purpose of the Directives

Standards for the quality of water intended for drinking or for use in food and drink manufacture are laid down in order to protect human health. The Directives have the additional effect of protecting the environment, as drinking water sources must be sufficiently free from contamination to allow inexpensive water treatment. Directive 80/778/EEC had indirect links with Directives 75/440/EEC and 79/869/EEC concerning surface water for drinking, since replaced by the Water Framework Directive 2000/60/EC and the Directives concerning groundwater. Waters officially recognized as natural mineral waters are covered by a separate Directive 80/777/EEC, replaced by Directive 2009/54/EC. Directive 80/778/EEC was repealed by Directive 98/83/EC on 25 December 2003.

Summary of the Directives

Summary of Directive 98/83/EC

Directive 98/83/EC replaced Directive 80/778/EEC. It covers water intended for human consumption with limitations relating to mineral waters and waters used in bottling and medicines.

Article 4 establishes the general objective which is that drinking water should be free from microorganisms, parasites and substances which constitute a danger to human health, including the requirement to meet the standards defined in the Annexes. Article 5 establishes the requirement for Member States to set values according to the Annexes as well as setting values for additional parameters where national (or sub-national) demands so require in order to meet the general requirement of Article 4.

The Directive lays down 53 water quality standards. It contains five Annexes.

Annex I is in three parts. Part A establishes microbiological parameters for drinking water and bottled water. Part B lists chemical parameters. Part C lists indicator parameters. The standards in Parts A and B are obligatory. Those in Part C are for monitoring purposes only. However, Article 8(6) requires Member States to consider whether exceedance of any indicator parameter might pose a risk to health and, if so, take remedial action.

Annex II provides the details of the parameters to be monitored, as required by Article 5. It divides the parameters into those required for 'check monitoring' (subject to more frequent sampling) and those for 'audit monitoring' (subject to less frequent sampling).

Annex III provides information on the reference methods to be used in monitoring. For microbiological parameters a detailed analytical technique is elaborated. However, for chemical parameters the Annex establishes the precision and detection limits of any technique that may be adopted. No reference methods are provided for five of the indicator parameters.

Annex IV provides an analysis of the deadlines for transposition in comparison with previous Directives and Acts. These principally relate to the enlargement of the Community since adoption of Directive 80/778/EEC.

Annex V provides a correlation table of Articles, comparing Directive 80/778/EEC with Directive 98/83/EC.

Article 6 specifies the point at which compliance would be assessed. For water from distribution networks this should be from the taps normally used for human consumption. However, if non-compliance is due to problems within the domestic distribution system only (except where water is supplied to the public, such as schools), Member States will have been deemed to have fulfilled their obligations. In this case Member States will still be required to inform customers and take appropriate measures to reduce non-compliance with standards.

Article 8 specifies remedial actions that should be taken in event of non-compliance with standards. This includes informing consumers and the prohibition of supply, where appropriate.

Article 9 makes provision for derogations. No derogation should constitute a potential danger to human health. A derogation should be limited to three years, at the end of which a progress review should be conducted. Following this a second derogation, limited to three years, may be made. Exceptionally a third derogation may be made, but this will be decided by the Commission. If a derogation is applied, Member States must inform the population affected and provide advice to any groups at special risk resulting from the derogation. Derogations concerning supplies of 1000 m^3/day and above or serving more than 5000 persons must be communicated to the Commission within two months. Article 15 also establishes the possibility for Member States to request a three-year extension for compliance for geographically defined areas. This may also be extended for a second three-year period. This request must be approved by the Commission.

Article 11 establishes a review procedure for the parameters and methods contained in the annexes. These shall be reviewed at least every five years. Changes resulting from reviews for analytical and monitoring requirements shall be considered by a Committee established under Article 12.

Article 13 requires that Member States publish a report every three years on the quality of water intended for human consumption, as a minimum covering supplies of 1000 m^3/day and above or serving more than 5000 persons. The first report will cover years 2002–2004. The Commission shall produce a synthesis report.

Future electronic reporting of drinking water data

On the basis of a Guidance Document and Decision 95/337/EEC, 2008 saw development and endorsement of the future electronic reporting tool under WISE, in joint work between Commission, Member States and European Environment Agency. The electronic reporting tool was available for the drinking water data for the period 2005–2007. It will make optimal use of WISE (Water Information System for Europe[1]) to improve management and availability of data. It will also reduce the administrative burden, based not least on experience already gained with integrating other water-related Directives into WISE.

Summary of Directive 80/778/EEC

Directive 80/778/EEC was repealed on 25 December 2003. However, details of its requirements, etc., are described here in order to provide an historical background to Directive 98/83/EC. Directive 80/778/EEC covered all water for human consumption including public and private water supplies, bottled water not recognized as mineral water or medicinal water by individual Member States, and water used in the food industry. In some instances, water used in the food industry may gain exemptions if its use does not affect the wholesomeness of the finished product. Regular water quality monitoring was to be carried out by Member States and samples had to be taken at the point at which the water is made available to the user. The exact points of sampling were to be determined by the competent national authorities.

The Directive established some 62 water quality standards and guidelines for water quality monitoring. It contained three Annexes.

Annex 1 listed the water quality standards, some of which have accompanying comments. Three types of standard were used: the Guide Level (GL), the Maximum Admissible Concentration (MAC), and the Minimum Required Concentration (MRC). Member States had to set values for all parameters with MAC or MRC values and had to ensure that water met them. These values had to be as stringent as the MAC and MRC standards. When the Directive only gave a GL standard, a Member State could use its discretion as to whether it set a standard or not. For some parameters no standard was set: the parameter appeared in the Directive only in order to draw the attention of Member States to its existence and to alert them to the possibility of its Regulation in the future.

The parameters were divided into six categories:

1. Organoleptic parameters, such as colour, odour, taste.
2. Physiochemical parameters, such as pH, conductivity.
3. Parameters concerning substances undesirable in excessive amounts, such as nitrates, nitrites.
4. Parameters concerning toxic substances, such as mercury, lead, pesticides.
5. Microbiological parameters, such as coliforms, faecal streptococci.
6. MRC for softened water intended for human consumption, such as hardness, alkalinity (there are no MACs in this table).

Annex II was concerned with water quality monitoring and the manner in which it should be conducted so as to ensure that the standards in Annex I were complied with. It contained two tables: one grouped parameters together to form standard pattern analyses; and the other stated the minimum frequencies at which these standard analyses were to be performed. The frequency of monitoring was greatest in systems that supply water to a large population, and for parameters such as residual chlorine and total coliforms. For supplies serving less than 5000 people, monitoring was at the discretion of the competent national authority. Member States were obliged to conform exactly with Annex II.

Annex III contained reference methods of analysis. Annex III had to be adhered to as far as practicable.

Member States could derogate from the standards set in Annex I in a number of circumstances. Article 9 made provision for derogations arising from the nature and structure of the ground in the area in which the supply in question emanates, and also for situations arising from exceptional meteorological conditions. It did not apply to toxic and microbiological parameters, and derogations could not constitute a public health hazard. Derogations arising from the nature and structure of the ground could be permitted for long periods of time and be granted by the competent national authority of the Member State itself, but the Commission had to be informed if the derogation related to a daily supply of 1000 m^3 or above, or to a population of more than 5000.

Article 10 covered derogations occurring in two circumstances: following emergencies, and when a poor quality water supply for which adequate treatment was not possible had to be used constantly. In both cases derogations could only be granted for a limited period of time and neither could constitute an unacceptable risk to health. Derogations could be granted for

all parameters in Annex I. The ‘competent national authority’ of the Member State concerned had to determine the maximum value or values which the relevant parameters could reach. The Commission had to be informed immediately that a derogation under Article 10 was needed and its duration and causal factors had to be indicated.

Under Article 20 delays could be granted to Member States by the Commission if particular difficulties were being experienced with compliance with the Directive. Delay applications had to be submitted with a time-limited plan of remedial work, and had to relate to geographically defined population groups. Delays could be granted for any parameter in Annex I.

The Directive detailed two ways in which it related to the food industry. Firstly, it allowed water used in the food industry to be excluded from meeting the requirements of Annex I (except for toxic and microbiological parameters) if its use did not affect the wholesomeness of the finished product. In order for an industry to be eligible for partial exemption it had to pass on information proving that the wholesomeness of the product was not affected to the competent national authority, which then applied to the Commission. Secondly, it stated that Member States could not act to prevent or inhibit the marketing of foodstuffs on grounds relating to the quality of the water if it reached the standards laid down by the Directive.

One other area affected by the Directive was the packaging and labelling of water with information regarding its suitability for consumption by infants. Member States wishing to introduce special provisions relating to such information had to inform the Commission and other Member States beforehand.

Member States were required under Directive 91/692/EEC (see section on implementation and enforcement of legislation) to submit annual implementation reports to the Commission from 31 December 1993.

Development of the Directives

Directive 80/778/EEC was a response to the mounting concern about the increased reuse of waste water for potable supply and the rising number of new organic and other trace substances entering into the water supply. There was a need to confirm that waste water treatment processes could adequately protect public health. The standards in the Directive are based on the WHO 1970 Drinking Water Standards which were not legally binding[2].

The negotiations for the Directive were lengthy, the main difficulties concerning the standards for the large number of parameters. Many of these were contentious because of cost as well as health factors. The Netherlands wanted very stringent standards for sodium, chloride and conductivity so as to control the activities of countries of the upper Rhine that were polluting the river from potash mines. The final version of the Directive however, did not even contain a MAC for chlorides and conductivity.

Another particularly contentious parameter was lead. Britain campaigned for a more lenient standard than the 50 µg/l set in the draft Directive, because of extensive problems with lead, which was controversial because it was then half the 1970 WHO European standard. Partly in response to Britain's views, the final version of the Directive contained a number of additions that made the lead parameter easier to comply with. Firstly, a ‘comment’ was added to the

lead standard in Annex I which raised the MAC in certain circumstances. Imprecise language was used to give a great amount of flexibility. Secondly, the period of time given to comply with all of the parameters in the Directive was extended from two to five years. Thirdly, the possibility of delays was introduced.

Surprisingly, the nitrate parameter was not widely regarded as a problem during the negotiations and only the UK government apparently foresaw difficulties in meeting it.

One reason for the frequent use of imprecise language in Directive 80/778/EEC was the inadequate state of scientific knowledge of the chronic health effects of many substances now found in water. Another is the large number of parameters to be regulated and the complicating influence of such things as synergistic reactions. Scientific uncertainty and political compromise were probably responsible for the phrase found in Articles 9 and 10 relating to derogations: they were not to constitute a 'public health hazard'. No precise information was given as to the way this is to be interpreted. The Economic and Social Committee stated in relation to Article 10 derogations that it was 'absolutely essential that some guidelines should be given in order to meet with emergency situations and that these could not be left entirely to the discretion of local authorities'.

Guidance on water quality monitoring was also lacking. For example, there was no guidance on sample collection and storage yet the way in which samples were handled could significantly affect the results of water quality analysis. Annex III contained reference methods of analysis but no performance criteria for use when methods other than those listed were used. A number of the problems were highlighted in a report by EUREAU in which it was pointed out, for example, that for dissolved or emulsified carbons, and phenols, the detection limits were above the MAC[3]. In a further report, published in December 1991[4], EUREAU put forward proposals to push for changes in the Directive.

Directive 98/83/EC was developed to update Directive 80/778/EEC in the light of new scientific and technical findings, especially from the World Health Organisation. The Directive made significant changes to Directive 80/778/EEC.

Firstly it reduced the number of parameters to be complied with. It also separated substances into those with mandatory limits and those with indicator limits. This was done in order to simplify implementation.

Nine new parameters were included in the light of new developments, including benzene and vinyl chloride. Studies on some existing parameters also showed the need for stricter standards. This especially applied to lead. This caused considerable debate during the passage of the Directive. As a result a longer compliance deadline for this parameter was introduced. Some standards have been relaxed (such as nitrite) or their definitions changed (such as the removal of fluoranthene from the regulated PAHs). Others have remained unchanged. This includes 0.1 µg/l value for total pesticides, which was heavily criticized by the water industry.

Implementation of the Directives

All Member States have reported legislation transposing Directive 98/83/EC. Details of this legislation are available from their national execution measures.

Individual Member State reports on the implementation of the Directive can be found in the Reporting Obligations Database.

The European Commission has produced a series of reports examining implementation of the Directives over different periods. The report[5] for 1993–1995 addressed implementation of Directive 80/778/EEC. This should have covered 12 Member States, but Luxembourg and Portugal did not provide any information. All 10 Member States had transposed the Directive into national legislation and had set limit values for parameters in accordance with the requirements of the Directive. In a very few cases a parametric value set by Member States did not match with the MAC in the Directive. All reported that procedures for water quality checking were in place and responsible authorities had been appointed. Nine Member States (Belgium (Wallonia only), Germany, Greece, Spain, France, Ireland, Italy, The Netherlands and the United Kingdom) provided information on the overall quality of drinking water. None of these countries achieved 100 per cent compliance. A further report[6] covered the period 1996–1998. Information was received from 13 of the 15 Member States (no information was received from Portugal and Sweden).

The report[7] for 1999–2001 addressed the implementation of Directive 98/83/EC. Of the 15 Member States, no data were submitted by Greece and those from Finland, Spain and Sweden were late and/or incomplete or in a format that meant these Member States could not be included in the analysis. The report found that the water quality parameters that caused non-compliance in the reporting Member States were iron and manganese (nine Member States), total coliforms and aluminium (eight Member States), hydrocarbons and phenols (six Member States), pesticides, nitrate and temperature (all in five Member States) and potassium, fluoride, sodium, sulphate and THM (all in four Member States). The parameters that caused non-compliance in most water supply zones were total coliforms, iron, turbidity, aluminium and faecal coliforms (each in eight Member States), manganese, faecal streptococci, pesticides and nitrate (each in six Member States), ammonium, nitrite, potassium, fluoride and colour (each in five Member States).

The report[8] for 2002–2004 included information for 18 Member States. Data from Sweden were again in a format that could not be analysed. Although reporting was not required from Member States that joined the EU in 2004, the Czech Republic, Hungary and Estonia submitted a report on a voluntary basis. The parameters most often leading to non-compliance with drinking water standards were iron and manganese, coliform bacteria and aluminium. These were followed by Enterococci, Colony Counts 22, arsenic, nitrate, THM, sulphate and lead, nickel, PAH, chloride, pH and turbidity. For water supply zones, the major causes of non-compliance were total coliforms/coliform bacteria, iron, manganese, turbidity and aluminium. The report discussed the analysis of trends in drinking water quality. Tentative conclusions were drawn, but analysis was difficult due to changes between the two Directives, incomplete reporting, etc. As the report stated ‘where conclusions in trends at Member State level are tricky business, this is even more the case for trend analysis at EU level. We would like to stress again that these conclusions are not very hard at all and should be taken with a large pinch of salt’.

Enforcement and court cases

Directive 80/778/EEC

There were a number of cases concluded in the European Court of Justice regarding Directive 80/778/EEC. A number of them concern failures of transposition. Further, a number of these are important in interpreting the obligations on Member States regarding ensuring enforcement, allowing exemptions, etc. Others concern the failure to achieve the standards required in the Directive (see also Case C-147/07 in the section on Directive 98/83/EC below):

- Case C-42/89 05.07.1990. This was a judgement against Belgium regarding the permitting by Walloon Region to allow the MACs in Annex I of the Directive to be exceeded in circumstances other than those provided for in the Directive and, therefore, the supply of drinking water to the town of Verviers to not be in conformity with the requirements of the Directive. This Case addressed the scope of the power to grant derogations provided for in Article 9 and that a Member State may not authorize derogations relating to toxic and microbiological factors, as such derogation is prohibited by paragraph 3 of Article 9.
- Case C-337/89 25.11.1992. This was a judgement against the United Kingdom concerning transposition and meeting the standards in the Directive. The Case concerned three complaints. Firstly, that the United Kingdom had failed to bring into force binding provisions ensuring complete implementation of the Directive, in that the national law did not include water used for food production. Furthermore, the implementing legislation for Scotland and Northern Ireland did not come into force until 1990. Secondly, the Court supported the Commission's claim that water supplied in the United Kingdom had exceeded the MAC levels for nitrates in 28 supply zones in England. The UK government attempted to argue that it had taken all the necessary steps to achieve the standards set in the Directive and that any deviation was caused by technical obstacles, such as modern farming practices, rather than a failure of their obligations. However, the Court stated that the fact of having taken all practical steps could not justify failure to comply with the obligation in the Directive. The Court ruled in favour of the United Kingdom with regard to the Commission's third complaint that lead levels in 17 supply zones in Scotland exceeded the prescribed lead limits.
- Case C-237/90 24.11.1992. This was a judgement against Germany regarding inadequate transposition of the Directive in that it allowed the granting of derogations (as per Article 10(1)) concerning ‘emergencies’ to situations where water supplies could not be maintained in any other way ‘at an acceptable cost’. The Court concluded that this was an incorrect interpretation of ‘emergencies’, which should be interpreted as urgent situations, which have to be managed suddenly. Directive 80/778/EEC also required Member States to report on the use of derogations, but the German law did not require the Länder to report their use of derogations to the national authority, thereby limiting the possibility of reporting to the Commission.
- Case C-340/96 02.04.1999. This was a judgement against the United Kingdom regarding the use of ‘undertakings’ to ensure compliance. The Commission had argued that the 1991 Water Industry Act was insufficient to ensure that breaches of drinking water standards were rectified. Under section 19 of the Act the Secretary of State was not required to take enforcement action if he is satisfied that the company

has already given an undertaking to take appropriate steps to secure compliance. The Court ruled that systematic use of such undertakings was not a satisfactory means of implementing the Directive and that in order to secure the full implementation of Directives in law and not only in fact, Member States must establish a specific legal framework in the area in question.

- Case C-316/00 14.11.2002. This was a judgement against Ireland for failing to ensure compliance with the parameters regarding total coliforms and faecal coliforms in Ballycroy. The ruling concerned a group water scheme in Ireland, introduced to tackle the problem of delivering water to low-density population area. A group water scheme is a scheme providing two or more households with drinking water using a common or shared source and a distribution system which is owned, operated and maintained by a cooperative group formed in a rural area. Group schemes provided drinking water to 145,000 rural households, of which 90,000 were connected to public water supply networks and 55,000 relied on private sources such as springs, boreholes, rivers or lakes. Ireland argued that the Directive did not apply to the latter. The Court disagreed and stated that a situation where the water is supplied to several users by way of a supply network is covered by the concept of supply to consumers and therefore falls within the scope of Directive 80/778/EEC.
- Case C-121-03 08.09.2005. This was a judgement against Spain for exceeding the MAC for the nitrates parameter in the Directive in various public water distribution networks in the Baix Ter area.
- Case C-251/03 29.09.2005. This was a judgement against Portugal for failure to transpose the Directive.

Directive 98/83/EC

There have been three judgements concerning Directive 98/83/EC related to incomplete transposition of the Directive by the deadline of 25 December 2000:

- Case C-29/02, 16.01.2003. This was a judgement against Spain where the Court concluded that transposition was incomplete, being at the stage of a draft Royal Decree.
- Case C-63/02, 16.01.2003. This was a judgement against the United Kingdom for failure to transpose the Directive in Northern Ireland and Wales.
- Case C-122/02, 16.01.2003. This was a judgement against Belgium for failure to ensure adequate transposition in that the documents forwarded for the Flemish and Walloon Regions were merely preliminary draft texts.
- Case C-458/10,30/7/2011. This was a judgement against Luxembourg for incomplete transposition.

There has been one judgement concerning the failure by a Member State to meet the standards set out in Directive 98/83/EC:

- Case C-147/07, 31.01.2008. This was a judgement against France for failure to meet the standards required in Directives 80/778/EEC and 98/83/EC in that the drinking water of three French departments exceeded the chemical parameters for nitrates and pesticides laid down by the Directive.

Further developments

Even before Member States were required to meet the standards in Directive 98/83/EC, the process for its revision was begun. In 2003 a public consultation was begun, including a major Drinking Water Seminar. The main topics covered were bacteriological contamination, chemical substances including construction products in contact with drinking water, small water supplies and risk assessment and risk management.

During 2007, the European Commission began the process of developing proposals for a further revision of Directive 98/83/EC. The network of European drinking water quality regulators met in Lisbon in November 2007 and supported the introduction of a risk-based approach to future EU drinking water quality Regulation. Subsequently, the Commission held meetings with stakeholders and Member State representatives (through the Article 12 Committee of the Directive) to review reports from five expert groups on: monitoring, chemicals, microorganisms, reporting and water safety plans (WSP). An important aspect of the future revision will draw upon the concept of Water Safety Plans set out in the 2004 WHO Guidelines for Drinking Water Quality. The Commission considered that under this approach drinking water quality surveillance would shift from the current sole control of drinking water at the tap towards quality management along the production and distribution cycle from capture to tap. As a result, a WHO Working Group produced a report advising the Commission how to 'anchor' the concept of WSP in a revised Directive. Working Groups were established to examine a wide range of technical issues underpinning a revised Directive.

In the context of preparing a revision of the Directive, safe drinking water from small supplies is also an important issue. Therefore, in January 2009 the Commission requested from the Member States aggregated statistical information on the monitoring results for water supplies to which the Directive applies but which are not covered by the obligation to publish reports and a workshop was held on this issue in November 2011.

Related legislation

The setting of standards for drinking water is, effectively, a product standard activity rather than one concerned with the wider environment. However, other Directives aimed at the wider environment also contribute to the protection of drinking water sources and hence to meeting drinking water standards.

The Surface Waters for Drinking Directive 75/440/EEC was adopted specifically to protect drinking water sources and Directive 80/68/EEC, for groundwaters, also contributed to this. The former is now completely repealed by the Water Framework Directive 2000/60/EC, which incorporates its functions, and the latter is being repealed and is updated by Directives 2000/60/EC and the Groundwater Directive 2006/118/EEC.

Various pollutants are also controlled by legislation with specific drinking water objectives. Examples include reducing nitrates through the Nitrates Directive 91/676/EEC and legislation concerning the use of pesticides.

References

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4 EUREAU (1991) *Drinking Water Directive 80/778/EC Proposals for Modifications, Views of Eureau*, December 1991.

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