

## J New Regulations and Associated Programmes of Work

- The 1998 EC Directive on the quality of water intended for human consumption (98/83/EC) introduced new requirements for monitoring and new or revised drinking water standards.
- The standards in the EC Directive largely reflect the current WHO Guidelines for Drinking Water Quality
- The requirements of the Directive in relation to public water supplies in England were transposed into national law by the Water Supply (Water Quality) Regulations 2000.
- The requirements of the Directive in relation to public water supplies in Wales were transposed into national law by the Water Supply (Water Quality) Regulations 2001
- These Regulations require water companies to undertake transitional monitoring for the new and revised standards between 2001 and 2003 in England and between 2002 and 2003 in Wales.
- Water companies have agreed programmes of work to ensure that water supplies meet the requirements of the standards which come into force on 25 December 2003.

### Drinking Water Quality Regulations

The new EC Directive on the quality of water intended for human consumption came into force on 25 December 1998. This sets out new and revised standards for a number of parameters, which have been incorporated into the new Water Supply (Water Quality) Regulations 2000 (the 2000 Regulations) and the Water Supply (Water Quality) Regulations 2001 (the 2001 Regulations). The 2000 Regulations apply to water companies whose area of supply is wholly or mainly in England (English water companies) and the 2001 Regulations apply to water companies whose area of supply is wholly or mainly in Wales. The majority of the new Regulations come into force on 25 December 2003. However some parts of the new Regulations, which are not directly related to the new Directive, came into force in England on 1 January 2001 and in Wales on 1 January 2002.

The new Regulations require water companies to monitor against new standards for six parameters. These parameters are listed in Table 1 below.

**Table 1**

Parameter	New standard to apply on 25.12.2003	Comments
Benzene	1.0 µg/l	
Bromate	10.0 µg/l	
1,2 dichloroethane	3.0 µg/l	
Enterococci	0/100 ml	
<i>Clostridium perfringens</i>	0/100ml	Indicator parameter
Nitrite	0.1 mg/l	New standard applies at water treatment works

Water companies will also be required to monitor against tighter standards for nine parameters and a more relaxed standard for one parameter, which are included in the current Water Supply (Water Quality) Regulations 1989. These are listed in Table 2 below. The existing standards remain in force until 25 December 2003.

**Table 2**

Parameter	Existing standards within the 1989 Regulations	New standard to apply on 25.12.2003	Comments
Antimony	10.0 µg/l	5.0 µg/l	
Arsenic	50.0 µg/l	10.0 µg/l	
Boron	2.0 mg/l	1.0 mg/l	
Copper	3.0 mg/l	2.0 mg/l	
Lead	50.0 µg/l	25.0 µg/l	Final standard of 10 µg/l will apply on 25.12.2013
Nickel	50.0 µg/l	20.0 µg/l	
Nitrate	0.1 mg/l	0.5 mg/l	At consumers' taps
Polycyclic aromatic hydrocarbons (PAHs)	0.2 µg/l	0.1 µg/l	New standard excludes fluoranthene and benzo-3, 4-pyrene
Tetrachloroethene Trichloroethene	10.0 µg/l 30.0 µg/l	10.0 µg/l	New standard applies to the sum of the two substances

The new standard for polyaromatic hydrocarbons (PAHs) relates to the sum of four substances rather than the sum of six substances as specified in the 1989 Regulations.

The new Regulations also introduce a tighter standard for Trihalomethanes (THMs) with a maximum concentration of 100 µg/l rather than a three monthly rolling mean. A formula has also been introduced for nitrate and nitrite of  $[\text{nitrate}]/50 + [\text{nitrite}]/3$  being less than or equal to 1, where the square brackets signify the concentration in mg/l for nitrate as  $\text{NO}_3$  and nitrite as  $\text{NO}_2$ .

## Programmes of work

Regulation 41 of the new Regulations required water companies to submit for approval programmes of work to meet the requirements of the new and revised standards which will come into force on 25 December 2003. These programmes of work have been approved by the Inspectorate and are being implemented by the water companies.

The Inspectorate monitors progress with the implementation of the programmes, and conducts audits of individual schemes. Adjustments are made to actions and completion dates, if necessary. Overall progress has been satisfactory to date and a number of programmes have been completed during 2002. These are summarised in the individual company sections.

Further details of the programmes, including the current stage of progress, are available from water companies or from the Inspectorate.

## Results of monitoring in 2002

In 2002, the Inspectorate requested all water companies in England and Wales to take samples for the six new parametric values (benzene, bromate, 1,2 dichloroethane, nitrite ex-water treatment works, *Clostridium perfringens* and Enterococci). The purpose of this exercise was to allow companies to identify where further improvement programmes might be necessary to meet the Directive requirements.

It should be noted that, because sampling was not necessarily undertaken at the monitoring frequency specified in the Directive, the results shown in Table 3 cannot be interpreted at this stage in terms of percentage compliance. Monitoring for the new parameters is continuing through 2003.

Improvement programmes are in hand to ensure compliance with the new standards where appropriate.

**Table 3 – The six new parameters**

Parameter	Number of samples taken	New standard	Number exceeding new standard	Percentage exceeding new standard
Benzene	9,229	1.0 µg/l	1	0.01
Bromate	10,095	10.0 µg/l	128	1.27
1,2 dichloroethane	9,616	3.0 µg/l	0	0.00
Nitrite (ex-water treatment works)	20,983	0.1 mg/l	3	0.01
<i>Clostridium perfringens</i>	5,062	0/100 ml	19	0.38
Enterococci	9,342	0/100 ml	7	0.07

Compliance data against the existing standards for 2002 has also been analysed to show compliance against the revised parametric values in Directive 98/83/EC. The results are shown in Table 4.

For lead, copper, nickel and PAH, exact compliance comparisons are possible because all data are for consumers taps. For the other parameters some samples have been taken at supply points so compliance can only be estimated (new water supply zones are not delineated until the start of 2004).

**Table 4 – Revised parameter values**

Parameter	Number of samples taken	Current standard	Number exceeding current standard	Percentage exceeding current standard	New standard	Number exceeding new standard	Percentage exceeding new standard
Antimony	2,540	10.0 µg/l	1	0.04	5.0 µg/l	1	0.04
Arsenic	3,196	50.0 µg/l	0	0.00	10.0 µg/l	45	1.41
Boron	2,836	2.0 mg/l	0	0.00	1.0 mg/l	0	0.00
Copper	13,030	3.0 mg/l	0	0.00	2.0 mg/l	4	0.03
Lead	20,682	50.0 µg/l	87	0.42	25.0 µg/l	273	1.32
Nickel	2,553	50.0 µg/l	3	0.12	20.0 µg/l	6	0.24
Nitrite	32,255	0.1 mg/l	1022	0.11	0.5 mg/l	1	<0.01
PAH	11,258	0.2 µg/l	337	2.45	0.10 µg/l	4	0.04
Tetrachloroethene	11,054	30.0 µg/l	2	0.02	{ 10 µg/l	3	0.03
Trichloroethene	11,050	10.0 µg/l	0	0.00			

The monitoring confirms that compliance with the new standard for lead will be an issue for some water companies. However, a non-compliance figure of 1.32% demonstrates that the plumbosolvency control measures already in place are having a significant impact on meeting the standard of 25µg/l. The Inspectorate is already taking steps to ensure that water companies have a strategy for lead in place to address any additional failures that occur.

The removal of fluoranthene from the PAH parameter will result in a significant improvement in compliance with this parameter. Likewise the change in the standard for nitrite at consumers' taps will result in a significant improvement in compliance, especially for those companies that use chloramination.

A number of companies have improvement programmes in place in respect of arsenic and chlorinated solvents.