



# Proposals for the revision of the Drinking Water Directive

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**This presentation reflects expert opinions and does not represent formal positions of the Member States and of the Commission**

## Revision of the Drinking Water Directive

- **Subgroups of Art.12 Standing Committee on Drinking Water**
  - **Art. 10 – chemicals and materials in contact with drinking water**
  - **Links with other legislation**
  - **Sampling and Monitoring**
- **Expert Group on Microbiology**
- **EC/WHO project on implementation of Water Safety Plans**
- **Consortium DHI on advice for chemical parameters**
- **Consultant COWI on impact assessment**

## Definitions

- **Compliance monitoring**  
is the monitoring specified by the Directive at the point of compliance to verify that water supplied for human consumption is in compliance with its quality requirements and the results are subject to its reporting requirements.
- **Operational monitoring**  
is the monitoring activity to check the quality of source water, and to validate the operation of the water treatment plant, the distribution network and the domestic distribution system up to the tap. The results of operational monitoring are not subject to the reporting requirements of the directive.

## Implementation of water risk management strategy

- **Applicable to all water supply zones**
- **Clarification of roles and responsibilities of stakeholders**
- **Documentation of characteristics of water source and water supply zone**
- **Benefits to suppliers and consumers**
- **Public health benefits**

## Water risk management strategy

- **Obligation to prepare Water Risk Management Strategy**
- **Identify all current and potential hazards that can affect the safety of water from the catchment, through treatment and distribution and within consumer premises,**
- **Assess the risk associated with each identified hazard and the barrier or mitigation measures in place,**
- **Identify the gaps where barriers or mitigation are not present.**
- **Take measures to reduce the risk by building barriers**
- **Each water risk management strategy needs to be documented and kept up to date, reviewed regularly and be subject to regular external audit.**

## Water risk management strategy

### Inclusion of operational monitoring in the revised directive:

**“The sampling programme for operational monitoring should be tailor made for each water supply system reflecting the risks identified in the water risk management strategy. The locations of sampling points, the parameters and the frequency of sampling depend on the risks and controls within the catchment area, the treatment process, the distribution network and domestic distribution systems”**

## Water risk management strategy

The revised Directive should include

- an obligation on Member States to pay special attention to assess the risk of release of metals due to materials in the domestic distribution system as part of the water risk management strategy and to propose programmes reducing such release. Special attention should be given to lead.
- an obligation on Member States to inform consumers that for the purpose of protecting public health, appropriate products are on the market to construct their private domestic distribution system.
- a strong recommendation to Member States to inform consumers that for the purpose of protecting public health consumers are advised to flush their tap prior to using the water for consumption when it has been standing stagnant in the domestic distribution system. Consumers should be advised to collect the flushed water and use it for other purposes

## Art. 10

- **... to take all measures necessary to ensure that no substances or materials for new installations used in the preparation or distribution of water intended for human consumption or impurities associated with such substances or materials for new installations remain in water intended for human consumption in concentrations higher than is necessary for the purpose of their use and do not, either directly or indirectly, reduce the protection of human health provided for in this Directive ...**

## Missing elements in Art. 10

- **Clarification**
  - Water supply system: source – tap
  - Should provide framework with health related acceptance criteria: protection level
- **Construction Product Directive**
  - Restricted to construction products
  - Interpretive document (1994) needs revision
- **Other product directives – e.g. water heaters, water meters**
- **Biocidal Product Directive – disinfectant chemicals**
- **Public Procedure Directive – EN's for non-disinfectant chemicals**
- **Notification Directive**
- **Proposal of regulation for mutual recognition**

## Art. 10 group proposal

- **Option I – art. 10 remains unchanged**
  - Problem for product harmonisation and mutual recognition
  - Higher costs for Member States and producers
- **Option II-IV – approval framework options**
  - Required authorisation scheme/mutual recognition
  - Community guidelines for assessment and authorisation
  - National authorisation schemes will converge
  - Higher costs for Member States and producers, but reduction of costs due to mutual recognition
- **Option V – following EAS proposal (2005)**

# Sampling points for compliance monitoring

## Table B1 of Annex II:

**“in the case of a distribution network, a Member State may take samples within the supply zone or at the treatment works for particular parameters if it can be demonstrated that there would be no adverse change to the measured value of the parameters concerned”**

## Sampling points for compliance monitoring – example

**The cold water tap that is normally used for human consumption**

parameter	Point of exit	Point of supply	Consumers' tap
Cd, Cr, Cu, Ni, Pb, Sb	n.a.	n.a.	X
Fe, Mn	n.a.	X	X
Al, As, B, Hg, Na, Se	X	X	X

n.a., not applicable

## Sampling protocols for compliance monitoring

### Art. 7:

**“samples should be taken so that they are representative of the quality of the water consumed throughout the year”**

### Note 3 of Part B of Annex I:

**“the value (for copper lead and nickel) applies to a sample of water intended for human consumption obtained by an adequate sampling method (to be added following the outcome of the study “Developing a new protocol for the monitoring of lead in drinking water”; EUR 19087 EN (1999)) at the tap and taken so as to be representative of a weekly average value ingested by consumers.**

## Sampling points and protocols for compliance monitoring

**RDT = 1 L without prior flushing at a random time during a normal working day**

parameter	Point of exit	Point of supply	Consumers' tap
<b>Cd, Cr, Cu, Ni, Pb, Sb</b>	n.a.	n.a.	<b>Random daytime sampling</b>
<b>Fe, Mn</b>	n.a.	<b>Flushed sampling line</b>	<b>No tap flushing required</b>
<b>Al, As, B, Hg, Na, Se</b>	<b>Flushed sampling line</b>	<b>Flushed sampling line</b>	<b>No tap flushing required</b>

**n.a., not applicable**

# Sampling programme for compliance monitoring

## Harmonisation of sampling programme (Art. 7)

- Definition of sampling dates, sampling points on that date, parameters to be analysed in each sample
- Random selection of sampling dates
- Ensure spread though the year
- Inclusion of all premises, public and private

## Sampling programme for compliance monitoring

- Introduction of a risk management strategy for all water supplies from catchment to tap
- Current terminology
  - From check/audit to standard/enhanced monitoring
- Enhanced frequency
  - E. coli, Enterococci, coliforms, colony count 22°C, colony count 37°C, C. perfringens, **Sb, Cd, Cr, Cu, Pb, Ni**, colour, conductivity, odour, pH, taste, turbidity
  - **Al, Fe**, NH<sub>4</sub>, NO<sub>2</sub> only when they are used in or affected by water treatment
- Need for greater focus and information on the quality of small water supplies

# Sampling frequency for compliance monitoring

Volume of distributed water	Minimum number of compliance samples	
	Standard frequency	Enhanced frequency
m <sup>3</sup> /day	n/year	n/year
≤ 10	1	1
>10 – ≤ 100	1	4
>100 – ≤ 1000	1	12  12 + 3 for each 1000 m <sup>3</sup> /day and part thereof of (total volume – 3000)
>1000 – ≤ 3000	1 + 1 for each 3300 m <sup>3</sup> /day and part thereof of the total volume	
>3000 – ≤ 10000		
>10000 – ≤ 100000	1 + 1 for each 10,000 m <sup>3</sup> /day and part thereof of the total volume	
> 100000	1 + 1 for each 25,000 m <sup>3</sup> /day and part thereof of the total volume	

## Reduction of number of samples for compliance monitoring

- Not for microbiological parameters
- As, B, CN, F, Hg, Al, NH<sub>4</sub>, Cl, SO<sub>4</sub>, Na, originating from geological source and  $<0.5$  of Parametric Value in source water:  $>10\%$  of frequency
  - minimum 1 sample per year
- Other parameters, having  $<0.5$  of Parametric Value at point of compliance:  $>50\%$  of frequency
  - minimum 1 sample per year

## Reduction of the number of parameters for compliance monitoring

- **Art. 3.2b and audit monitoring in Table A of Annex II**

### Proposal:

- **$\leq 10$  m<sup>3</sup>/day – keep Art. 3.2b**
- **$\leq 100$  m<sup>3</sup>/day – parameter selection based on water risk management strategy**
  - **Full list of parameters once in x years**
- **$> 100$  m<sup>3</sup>/day – full list of parameters**

## Non-compliance due to domestic distribution system

### For Cu, Ni and Pb

- Investigation according to draft Commission Decision of 2005
- Need for clear definition of non-compliance at individual tap
  - 4 h in Germany
  - 30 min in other MSs

## Core group of parameters for compliance monitoring

- Parameters for which there should be a requirement to monitor or to demonstrate, by risk assessment and chemical analysis, that they are not present in the raw water or drinking water

Health risk parameters	Hygiene/operational parameters
<p><b>As, B, Cd, Cu, Ni?, Pb</b></p> <p>Fluoride, nitrate, nitrite</p> <p>Pesticides (individual)</p>	<p><b>Al, Fe, Mn, Na</b></p> <p>Ammonium, chloride</p> <p>Colour, conductivity, odour, pH, taste, TOC, turbidity</p>

## Group of parameters for Water Safety Plan

<p>Parameters and substances that arise from chemicals or materials in contact with drinking water, to be controlled by product specifications and use</p>	<p>Substances and groups of substances to be controlled under the DWSP approach, for which no appropriate analysis exist</p>	<p>Substances to be monitored to ensure compliance when they are shown to be present following the DWSP approach of hazard identification and risk assessment (these substances need not be monitored if the hazard identification and risk assessment show that they are absent)</p>
<p>Acrylamide, epichlorohydrin, vinyl chloride</p>	<p><b>Sb</b>, Benzo(a)pyrene, PAH</p>	<p><b>Cr, Ni?, Se</b> Bromate, THM, tri-/tetrachloroethene</p>

## Draft proposal metallic parameters

- B – parametric value of 1000  $\mu\text{g/l}$  → 1200-2400  $\mu\text{g/l}$
- Cd – parametric value of 5  $\mu\text{g/l}$  → 3-10  $\mu\text{g/l}$
- Cr – parametric value of 50  $\mu\text{g/l}$  → 50-100  $\mu\text{g/l}$
- Ni – parametric value of 20  $\mu\text{g/l}$  → 20-70  $\mu\text{g/l}$
- Se – parametric value of 10  $\mu\text{g/l}$  → 30  $\mu\text{g/l}$
- Sb – parametric value of 5  $\mu\text{g/l}$  → 20  $\mu\text{g/l}$
- Al/Fe - parametric value of 200  $\mu\text{g/l}$  → 100  $\mu\text{g/l}$
- Hg removed – not normally found in drinking water above 1  $\mu\text{g/L}$
- U added – important for small water supplies. Proposed parametric value of 15-30  $\mu\text{g/L}$

[http://circa.europa.eu/Public/irc/env/drinking\\_water\\_rev/home](http://circa.europa.eu/Public/irc/env/drinking_water_rev/home)