



COMMISSION OF THE EUROPEAN COMMUNITIES

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**COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE
EUROPEAN PARLIAMENT**

**Integrated prevention and control of chemical pollution of surface waters in the
European Union**

{SEC(2006) 947}
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(Text with EEA relevance)

1. PURPOSE OF THE COMMUNICATION

1.1. Introduction

The Water Framework Directive (WFD),¹ adopted in 2000, establishes a new regime for prevention and control of the chemical pollution of surface waters and ground waters. The WFD also requires the Commission to bring forward specific proposals on priority substances in surface waters.

There are many potential pollutants that can impair the quality of our rivers, lakes, and coastal and marine waters. Aquatic pollution can be caused by organic matter, nutrients and large numbers of chemical substances which are either produced for deliberate use (such as pesticides) or which are formed unintentionally in production processes (such as the polycyclic aromatic hydrocarbons arising from combustion processes). There are thousands of individual traceable substances in our freshwaters and many of these will eventually reach our marine waters.

A limited number of chemical pollutants have been identified as being of particular concern in surface waters throughout the EU due to their widespread use and their high concentrations in rivers, lakes and coastal waters. These are defined as “priority substances”.² There is also a sub-set of “priority hazardous substances” for which more stringent environmental objectives apply because of their high persistence, bioaccumulation and toxicity. In addition to the priority substances, Member States must identify other chemical pollutants which impede the aims of the WFD.

The approach to tackling chemical pollution of surface water is embedded in the wider strategic approach established in the 1970s. The WFD fully incorporates and updates this long-term policy into an integrated, flexible and modern response to the persistent threats posed by excessive concentrations of chemical substances in EU waters.

¹ Directive 2000/60/EC of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L327, 22.12.2000, p. 1) as amended by Decision 2455/2001/EC of 20 November 2001 establishing a list of priority substances in the field of water policy (OJ L 331, 15.12.2001, p. 1)

² Article 16 of the WFD: 33 individual or groups of priority substances were selected in the first list of priority substances as adopted in Decision 2455/2001/EC (see footnote 1). For more information on the methodology and the results of the priority setting, refer to http://europa.eu.int/comm/environment/water/water-dangersub/pri_substances.htm

Accompanied by a proposal for a Directive on environmental quality standards in the field of water policy,³ this Communication presents the wider conceptual framework and the reasoning behind the policy approach chosen by the Commission.

1.2. What is the overall conceptual framework?

When chemicals are mined, manufactured or processed, there can be emissions, discharges or losses to the air, to water and to soil. The disposal of the waste material resulting from these activities can also result in inputs into the environment. Direct discharges to water from mines or factories are an obvious cause of pollution. Less obvious are substances deposited from the atmosphere. Once a substance is on the market it can be used in manufacturing processes to produce consumer goods, and there may be discharges, emissions and losses to the environment. Again when products are used (e.g. detergents, pesticides, building materials) there will be more losses. Finally, when materials are disposed of as solid or liquid waste there may be further losses.

Measures for the prevention and control of the chemical pollution of water must take account of these various pathways. Emission and process controls can reduce losses during the production of chemicals and during their subsequent incorporation into other products. Restrictions on the marketing and use of chemicals, including authorization and approval procedures, can further reduce the potential contamination of the environment. Finally, waste treatment and disposal measures are also effective in reducing pollution.

The measures referred to in the previous paragraph are concerned with reducing or controlling discharges, emissions and losses, but they represent only half the story. Article 10 of the WFD sets out a “combined approach” involving the use of environmental quality standards (EQS). On the basis of information concerning the toxicity, persistence and bioaccumulation potential of a substance, together with information on what happens to the chemical in the environment, it is possible to determine threshold concentrations to protect people, flora and fauna. When EQS are established for water, or sediments or plant/animal tissues, they provide a benchmark for ensuring the ecological integrity of aquatic ecosystems or the protection of human health when using the water (e.g. for bathing or the abstraction of drinking water).

Finally, if control measures or EQS are to be effective they must be combined with an effective system of monitoring to ensure that measures are carried out and that EQS values are respected.

This conceptual framework applies to all types of water pollution. However, the subsequent considerations refer exclusively to the regulatory framework for priority substances which governs pollution from all chemical substances that adversely affect the quality of surface waters.⁴ Other pollutants (such as nutrients and organic

³ COM(2006)397 final

⁴ Defined as the individual substances which form part of the groups and families identified in the points 1 to 9 of Annex VIII WFD

matter) are regulated in specific pieces of Community legislation (e.g. the Urban Wastewater Treatment Directive⁵ and the Nitrates Directive⁶).

1.3. How was chemical pollution of surface waters regulated in the past?

In the early 1970s, there were alarming reports on the Rhine and other European rivers documenting high levels of chemical pollution that resulted in regular incidents of fish kills. In response, the Council adopted a Directive on discharges of dangerous substances into the aquatic environment (Directive 76/464/EEC)⁷ that sets out an ambitious programme to prevent and limit pollution from dangerous substances. Chemical pollutants were grouped into List I substances, which were considered to be particularly toxic, persistent and bio-accumulative and were to be regulated by the Community, and the less-problematic List II substances for which regulation was left to the Member States. In 1982, the Commission came forward with a list of 132 candidate List I substances. By 1990, emission limit values and quality standards had been fixed for 18 of these 132 substances in five “Daughter Directives”.⁸ Thereafter, the Council halted regulation of the other substances proposed by the Commission⁹ arguing that the legislative process had been slow and ineffective. The Council asked the Commission to reconsider the policy in the light of ongoing discussions on a new policy on integrated pollution prevention and control (IPPC).

In 1996, the IPPC Directive¹⁰ was adopted. It partially incorporated the regulatory framework of Directive 76/464/EEC, maintaining the emission limit values as minimum requirements. But since the IPPC Directive covered only certain installations, the Commission integrated the remaining relevant provisions of Directive 76/464/EEC into its amended proposal for the Water Framework Directive.¹¹

In the 25 years since adoption of Directive 76/464/EEC, the Environment Directorate-General of the Commission has published several reports on its implementation.¹² The overall assessment of the success of the policy is mixed. Despite clear and demonstrable successes in reducing pollution from industrial point sources, there have been a number of significant implementation problems.¹³

⁵ Council Directive 91/271/EEC (OJ L 135, 30.5.1991, p. 40)

⁶ Council Directive 91/676/EEC (OJ L 375, 31.12.1991, p. 1)

⁷ OJ L 129, 18.5.1976, p. 23

⁸ Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC and 86/280/EEC (as amended by Directive 88/347/EEC and 90/415/EEC)

⁹ COM(90) 9 final of 8.2.1990 (ISBN 92-77-57387-2)

¹⁰ Directive 96/61/EC (OJ L 257, 10.10.1996, p. 26).

¹¹ See COM(98) 76 final (OJ C 108, 7.4.1998, p. 94) amending COM(97) 614 final (OJ C 16, 20.1.1998, p. 14) and COM(97)49 final (OJ C 184, 17.6.1997, p. 20)

¹² europa.eu.int/comm/environment/water/water-framework/library.htm

¹³ The main obstacle was the conceptual approach which was based on two options, either emission limit values or environmental objective. The WFD introduced the “combined approach” which uses the strength of both these approaches. Moreover, there was a lack of clear implementation deadlines and absence of a minimum threshold for negligible pollution. Furthermore, the share of responsibility between the European Commission and the Member States was unclear. Some of these questions could have been overcome with implementation guidance, which was not provided at the time.

The WFD, which is based on the concept of integrated pollution control, has overcome these obstacles and now addresses chemical pollution in a more holistic, effective and differentiated way. In the current proposal for a Directive, the Commission is suggesting that the five Daughter Directives should also now be repealed. So this package will help to streamline and simplify environmental legislation.

2. APPROACH PROPOSED BY THE COMMISSION

The overall approach set out in the WFD has to be translated into specific actions that provide answers to the following questions (stemming from Article 16).

- (1) Which substances should be regulated at Community level?
- (2) What are the criteria or indicators (EQS) for checking that the objectives of the WFD have been fulfilled?
- (3) What additional measures have to be taken at Community level to achieve these objectives?

To answer the first question, a list of 33 (groups of) priority substances for regulation at EU level was agreed in 2001.¹⁴ Some of these substances are of very high concern and have been identified as “priority hazardous substances” and for these the WFD objective is to cease or phase out emissions, discharges and losses within 20 years.

The main objective of the current proposal for a Directive is to provide an answer to the other two questions, i.e. to set harmonised environmental quality standards and to propose additional control measures.

The Commission started preparing this proposal in 2001 using intensive and extensive consultation. The main form of consultation was regular exchanges with the Expert Advisory Forum of representatives from the Member States and other countries (Norway, Bulgaria and Romania), industry stakeholders and non-governmental organisations. Furthermore, the proposal for EQS was peer-reviewed by the Scientific Committee for Toxicity, Ecotoxicity and the Environment (SCTEE). Finally, written consultation on a draft of the Directive took place from June to September 2004.

As part of the preparation process, two studies were carried out and these form the basis for the Impact Assessment.¹⁵ In the Impact Assessment three main options and many sub-options were considered:

Option 1: Not to present a proposal at all and thus leave regulation entirely to the Member States.

Option 2: To present a proposal on harmonised EQS only and leave the specification of additional control measures to the Member States.

¹⁴ See footnotes 1 and 2

¹⁵ SEC(2006)947

Option 3: To propose both EQS and additional emission control measures at Community level.

These are subsequently discussed in more detail.

2.1. Environmental quality standards

Environmental quality standards (EQS) are concentrations of pollutants which should not be exceeded in order to protect human health and the environment. In the context of the Water Framework Directive, EQS define the environmental objective of “good surface water chemical status” and thereby represent criteria for assessing whether Member States are in compliance (see Article 2, paragraph 24).

Some EQS for water have been set at Community level in the past (see Section 1.3). Furthermore, most Member States have established a comprehensive set of EQS at national, regional or river basin level. Currently, national quality standards for priority substances vary considerably across the EU. This results in a different level of protection and different conditions for water users (e.g. industry) in different Member States.

The concern of the Commission is that for the priority substances, which are by definition of EU-wide concern, the establishment of EQS should ensure that implementation of the Directive is consistent with the obligations of the legal text and comparable between the Member States. Furthermore, there is a need to have a harmonised basis for assessment, in particular for international river basins. Moreover, the setting of EQS needs to take account of other relevant policy areas, such as chemicals or pesticides, and ensure that risk assessments are consistent.

The best way to achieve these objectives is to harmonise EQS for priority substances at Community level, so Option 1 - No proposal - was discarded.

2.2. Pollution control measures

In addition to EQS, the WFD requires the Commission to come forward with Community-wide control measures to reduce pollution from priority substances, or to phase out emissions, discharges and losses of priority hazardous substances. A wide range of instruments are available and in place, from product controls (e.g. restriction on marketing and use), to process controls (e.g. best available techniques, emission limit values) and economic instruments (e.g. pesticide taxes).

Already, before the WFD, there was Community legislation in place which helps to achieve the WFD objectives. In particular, the policies on chemicals (including pesticides and biocides) and industrial pollution make a significant contribution. In addition, the Commission has made numerous proposals and decisions since 2000, which constitute pollution control measures for individual priority substances in accordance with Article 16 (6) WFD.¹⁶ Moreover, the current overhaul of the

¹⁶ For example, the decisions on non-inclusion of certain pesticides in Annex I of Directive 91/414/EEC (see Decision 2004/247/EC for simazine, 2004/248/EC for atrazine) or Proposal for a mining waste directive (COM (2003) 319 final) or proposals for marketing and use restrictions under Directive

chemicals legislation¹⁷ will make a significant contribution to achievement of the WFD objectives. All these pieces of EU legislation and policies are presented in more detail in the Impact Assessment.

Most of these pieces of legislation are not fully implemented yet. It is therefore impossible to assess whether the WFD objectives will be met by implementing these policies or whether there is still a gap which merits Community action.

This challenge was also recognised during the analysis of the socio-economic impacts of various options. Option 3 made a number of assumptions in order to define specific EU-wide measures (including emission limit values) for the industries most affected, namely chemicals (mainly chlorine and pesticides), iron and steel, non-ferrous metals, PVC conversion, and refineries. For this option, the study estimated high costs (see impact assessment for details). It also identified potential impacts on employment. Based on the available data, it would be more cost-effective, flexible and proportionate to leave the introduction of additional measures (including emission limit values) to Member States. Consequently, Option 3 was ruled out because of the disproportionate costs.

In conclusion, the Commission believes that the current body of Community legislation should, in most cases, enable achievement of the WFD objectives. At the same time, the impact assessment demonstrates that the most cost-effective and proportionate approach for priority substances is to set clear and harmonised standards and allow Member States a maximum of flexibility on how to achieve them. If Member States provide sufficient evidence that additional measures are needed at Community level, there are various mechanisms under existing instruments that allow them to put this to the Commission as a basis for discussion.

2.3. Impacts of the proposal

The impact study looked at the socio-economic costs of the selected policy option, Option 2. The estimated costs were approximately 700 million euros a year, considerably lower than for Option 3. The assessment of impacts clearly demonstrated that Option 2, the setting of harmonised EQS at EU level, is the best policy option.

Following this study, further assessments were made. First, estimates of the current rate of compliance with the proposed EQS suggested that it is already higher than expected in the cost study. For organic substances, compliance would be mostly over 75% and for metals between 50-80 %. However, there is a considerable data gap due to a lack of monitoring results for the EU-10 and for certain priority substances. For nickel, lead and some organic substances, the compliance rates were lower than those given above.

A number of sub-options were considered in order to refine the choices and approaches when setting harmonised EQS. Most importantly, it was decided that the overarching principle would be to link in to the risk assessments carried out under

¹⁷ 76/769/EEC (e.g. for pentachlorodiphenyl ether or trichlorobenzenes) or the mercury strategy (COM (2005) 20 final) or the POP Regulation No. (EEC) 850/2004. REACH Proposal (COM (2003) 644 final)

other EU legislation in order to ensure consistency between the different policy areas. Some of these risk assessments are still ongoing and, for nickel and lead in particular, it is difficult to anticipate when they will be finalised. The Commission is therefore committed to amending its EQS proposal if there proves to be substantial differences between the final risk assessments and the current proposal.

Other sub-options include reflections on the approaches to setting EQS for sediments, biota, metals and for protected areas for the abstraction of drinking water. There was also discussion of analysis and monitoring aspects linked to compliance. In general, the sub-option choices were made with a view to minimising the impact of the proposal by maintaining a high level of environmental protection.

Finally, the peer review of the EQS by the SCTEE and the wider written consultation of the draft proposals helped to streamline the proposal, e.g. by taking out some of the binding targets for emission controls. In addition, the proposed EQS of several priority substances were updated on the basis of new data and the comments from the SCTEE. In most cases (e.g. nickel, lead, mercury, nonylphenol and PAHs), scientific review led to less stringent EQS.

These adaptations should increase current compliance rates and reduce the economic impacts of the proposal.

2.4. Benefits of the proposal

The impact assessment also looks at the proposed actions in terms of their benefits, both direct economic benefits and non-use benefits. As with other impact assessments, it is not really possible at this stage to quantify the benefits and express them as a global figure. The direct economic benefits include for example reduction of the costs of drinking water treatment and less deposition of contaminated sediment, where cost savings could potentially reach 100-400 million euros per year. However, it is not expected that the proposal will exploit this potential fully since some treatment of drinking water for removal of priority substances may still be necessary after full implementation of the proposal.

In addition, there are expected gains for the fishing and shellfish sector and increased opportunities for industries providing cleaner technologies. There should also be a number of other environmental and social benefits like the protection and enhancement of biodiversity, reduced exposure for bathers and surfers, cleaner sediments, and less accumulation in the food chain, e.g. through livestock and game watering on rivers and lakes.

Finally, the proposal should significantly reduce administrative burden. The harmonised EQS save all Member States from having to carry out similar preparatory work to arrive at sound scientific standards. The proposal also streamlines and simplifies monitoring and reporting obligations, in particular by repealing the five existing Directives.

3. TARGETED ACTIONS ON PRIORITY SUBSTANCES UNDER EXISTING POLICY AREAS

As mentioned above, the proposed Directive does not include additional emission control measures. The Commission considers that there is already a full toolbox of legal instruments that Member States can use to meet the WFD objectives for priority substances. However, in order to further improve the focus and effectiveness of the relevant EU legislation for the purposes of the WFD, the Commission proposes a number of concrete actions.

Action 1: Amending Directives

A number of Directives are to be reviewed and amended in the 2006-2007 period, in particular Directives 96/61/EC and 91/414/EEC. The Commission intends to use these reviews to assess whether these instruments can be made even more effective in preventing or controlling pollution caused by priority substances. For the IPPC Directive, this would include, *inter alia*, an explicit reference to priority substances in the permitting procedures. For the Pesticides Directive, the elements to be strengthened include, *inter alia*, the consideration of risks to the marine environment. In addition, efforts are ongoing to develop models for exposures at river basin level to take account of other risks, like those affecting drinking water abstraction. Such models would then be used in the future during the risk evaluation process.

Action 2: Enhancing implementation and enforcement

Already under existing Community law, Member States either *may* or *must* control emission, discharges and losses of priority substances, although unfortunately there is no consistent and comparable application of these provisions. For example environmental quality standards could and should have been set for pollutants under Directive 76/464/EEC. If these quality standards are regularly exceeded, Member States can take a wide range of measures under various policies including Directive 91/414/EEC (e.g. review the authorisation) or Directive 96/61/EC (e.g. review the permits) depending on the reasons for this exceedance. While restrictions on the manufacture, placing on the market and use of certain dangerous substances have been regulated at European level, and this should largely continue in the future, Member States may also, under certain strict conditions laid down in the Treaty, introduce national provisions to restrict marketing and use because of risk to the aquatic environment.¹⁸

In order to improve the implementation and enforcement of existing EU legislation, the Commission will establish an information exchange between the Commission and the Member States in the context of the WFD Common Implementation Strategy to share information and opinions on existing possibilities and share “success stories” and “best practices”.

¹⁸ See for example Commission Decision 2002/884/EC of 31 October 2002 (OJ L 308, 9.11.2002, p. 30)

Action 3: Establishing procedures for Member States to present evidence for Community action

The Commission will establish clear and transparent procedures to provide a streamlined and targeted framework for Member States to provide relevant information on priority substances for Community decision-making. Such procedures could be based on Article 12 of the WFD and would specify the timetable, process and format for presenting evidence to the relevant committees or decision-making bodies under the instrument in question.

Action 4: Improving the availability of information

The knowledge gap already mentioned will need to be closed over the coming years. Implementation of the European Pollutants Release and Transfer Register¹⁹ will certainly help. In addition to information on discharges, emissions and losses, the Commission will seek to enhance information on priority substances, in particular on environmental quality, trends, and releases and pathways in the aquatic environment. To this end, the Commission, together with the EEA, the JRC and ESTAT, is already developing a shared “Water Information System for Europe” (WISE).²⁰

4. CONCLUSION

The Water Framework Directive together with the current Commission proposal for a Directive on environmental quality standards in the field of water policy sets out clear, ambitious and sustainable objectives for priority substances in surface waters. These objectives aim at a high level of protection of the aquatic environment and human health in terms of exposure to concentrations of these chemicals in water. In addition, they improve the comparability of conditions for industries in the internal market.

In order to ensure the most cost-effective and proportionate level and combination of measures to achieve these objectives, the Commission believes that the Member States should be allowed maximum flexibility according to the principle of subsidiarity. Hence, it does not propose specific and additional measures in its Directive but instead aims to use the wide range of existing Community instruments and enhance their effectiveness as explained in this Communication.

If applied in its entirety, existing EU legislation provides a solid network of interacting policies to address this multi-dimensional and complex problem. However, as we increase our knowledge of environmental pressures, status and impacts, we shall inevitably identify within this comprehensive network areas that can be improved and omissions that can be remedied.

¹⁹ Regulation (EC) No. 166/2006 (OJ L 33, 04.02.2006, p.1)

²⁰ See concept paper on WISE under <http://europa.eu.int/comm/environment/water/water-framework/transposition.html>