Summary Report on Environmental Developments - 2

November 1988 to May 1989

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SUMMARY REPORT ON ENVIRONMENTAL DEVELOPMENTS NO 2 NOVEMBER 1988 - MAY 1989

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SUMMARY

I OBJECTIVES

To ensure that the UK Water Industry is kept informed of important recent developments in environmental legislation and European practice.

II REASONS

During discussions with staff of several water utilities held last year the need for a current awareness briefing on environmental legislation and European practice was identified. Accordingly last November a report outlining the current situation was published by ESSL (now ESL). This was intended to be the first of a series of occasional reports aimed at ensuring the Water Industry is kept informed of the latest developments. The present report is the second in this series and deals with developments during the period from November 1988 to May 1989.

III CONCLUSIONS

This report is the second in a series of occasional reports issued by ESL on environmental legislation and practice in response to a need for current awareness briefings identified by the Water Industry.

IV RECOMMENDATIONS

The first in this series of occasional reports summarising recent developments in environmental legislation and European practice was well received by the Industry since it fulfilled a need for current awareness briefings.

Further reports in this series should be issued to the Industry when the situation is appropriate.

V RESUME

This report summarises developments in environmental legislation and European practice over the period from November 1988 to May 1989. This has been a very active period and has seen the adoption of one new Directive and the introduction of a number of proposals for future directives with particular relevance to the Water Industry.

Also included in the report are details of studies on dangerous substances and of surveys of European bathing water quality and of the implementation of the Drinking Water Directive in six EC Member States. WRc's links with the European Institute for Water and with the World Health Organisation are also described.

CONTENTS

SECTION 1 - INTRODUCTION

The first of a series of occasional reports prepared by the WRc's Environmental Standards and Legislation (ESL) Group (formerly ESSL) summarising recent developments in environmental legislation and European practice affecting the UK Water Industry was published in November 1988. It was well received by the Industry who considered that it fulfilled a need for current awareness on environmental developments.

The present report is the second in this series and deals with developments during the period from November 1988 to May 1989.

This has been a very active period and has seen the adoption of one new Directive and the introduction of a number of proposals for future Directives with particular relevance to the Water Industry. These are discussed in the report together with details of studies on dangerous substances prepared by ESL. Also included are summaries of the results of surveys of Community bathing water quality (published by the European Commission) and of the implementation of the Drinking Water Directive in six Member States (prepared by ESL for DoE). WRc's links with the European Institute for Water and with the World Health Organisation are also described.

SECTION 2 - DEVELOPMENTS DURING THE PERIOD NOVEMBER 1988 TO MAY 1989

2.1 ADOPTED EC DIRECTIVE

A new Directive (89/106/EEC) of particular significance to the utilities-side of the Water Industry, has been adopted recently. This concerns the approximation of laws, regulations and administrative provisions of the Member States relating to construction products and covers products intended to be permanently incorporated into building and civil engineering works.

The Directive seeks to eliminate the present technical barriers to trade for construction materials as part of the overall development of the Internal Market which is scheduled to be completed by 1992. Most Member States have their own standards and laws which are important in setting quality and safety requirements for construction materials in their national home market. These standards are drawn up by national standards bodies, such as BSI in the UK, AFNOR (France) and DIN (Federal Republic of Germany). However these national standards can be a serious barrier to trade when different standards apply in the Member States and especially when Member States do not recognise each others' arrangements for testing and certifying products.

Although the Directive is essentially a framework Directive, with much detail yet to be developed, it has far reaching implications. In essence it requires the free market flow of products provided that they meet essential requirements primarily concerned with health and safety. Products will comply if they meet technical specifications which in time will consist mostly of harmonised European Standards although a category of European Technical Approval is an alternative where European Standards do not or are unlikely to exist. National standards can be used though for a limited interim period.

Essential requirements of construction materials covered by the Directive are mechanical resistance and stability, safety in case of fire, hygiene, health and the environment, safety in use, protection against noise, energy economy and heat retention. Products complying with these essential requirements will be permitted to carry the CE mark. This will become very valuable since the proposed procurement directive, currently being negotiated and which covers water supply, will require water undertakers to specify the use of materials carrying the CE mark.

Member States are required to implement the requirements of the Construction Products Directive within 30 months of its adoption ie by end June 1991.

2.2 PROPOSED NEW DIRECTIVES

The following proposals for new Directives with particular relevance to the Water Industry have been published by the European Commission during the period under review.

2.2.1 Waste

The framework Directive on Waste (75/442/EEC) was originally adopted in 1975. It contains four main mandatory elements:

- o appointment of competent authorities with responsibility for waste,
- o waste disposal plans to be prepared by these competent authorities,
- o permits from the competent authorities to be obtained by installations or undertakings handling waste,
- o "polluter pays" principle to apply.

Recently the European Commission has introduced a proposal (COM(88)301 final) to amend this Directive in the light of the experience gained during its operation. Thus it seeks to reduce the volume of waste disposed by promoting clean technology and by greater recycling. It also introduces two detailed annexes to the Directive which give Annex I "Reasons why materials are designated for disposal" and Annex II "Disposal operations".

Implementation of this amendment should lead to a greater protection of the quality of both surface and groundwaters. The disposal of "agricultural waste of faecal origin" and of "wastewaters discharged into sewers and the aquatic environment" are both excluded from the scope of the proposed amendment to the Directive.

2.2.2 Hazardous waste

On the same day that the European Commission published the proposed amendment to the Directive on waste, it also announced a further new proposal (COM(88)391 final) for a Directive on hazardous waste to replace the existing Directive on toxic and hazardous wastes (78/319/EEC). The original Directive which was adopted in 1978, lays down more stringent controls for toxic and hazardous waste within the framework Directive on waste (75/442/EEC). The proposed replacement Directive has been prepared following experience gained in the operation of the existing Directive. Thus the new proposal seeks to introduce more precise and uniform definitions of hazardous wastes and a more stringent monitoring programme.

Among the classes of wastes listed in the proposal as those which can contain substances which render them hazardous and consequently controlled by the requirements of the proposal are contaminated wastewaters and sewage sludge, untreated or unsuitable for use in agriculture.

2.2.3 Sludge to agricultural land

Directive 86/278/EEC on the "protection of the environment and in particular of soil, when sewage sludge is used in agriculture" lays down limit values for certain heavy metals in cultivated soil either by setting maximum quantities for the amounts of sludge used per annum and ensuring that the limit values for the concentration of heavy metals in the sludge used are not exceeded or by seeking to ensure that limit values for the quantities of heavy metals that can be added to the soil on the basis of a 10 year average are not exceeded. Thus the Directive fixes limit values for cadmium, copper, nickel, lead, zinc and mercury. However at the time of adoption of the Directive, it was agreed that limit values for chromium could not be fixed because of insufficient scientific data and that these would need to be set at a suitable later date.

A proposed amendment to the Directive (COM(88)642 final) has recently been published which claims that further scientific information on the

effect of chromium on soils and crops enables limit values for chromium to be fixed with "certainty and at a high level of protection".

The amendment seeks to impose a maximum soil concentration limit for chromium in the range 100-200 mg/kg. The current limit in the UK is 600 mg/kg. This UK limit is considered to be very safe since it has been established that chromium in sludge-treated soils presents a negligible environmental hazard because chromium in soils remains in the trivalent form which is largely inert and not taken up by crops. At present there seems little justification to limit chromium to a level two thirds that for zinc which is phytotoxic at elevated concentrations.

For sludges with a relatively high concentration of chromium, a soil limit of 200 mg/kg will be restrictive for some UK sewage treatment works. More important is the proposed annual limit for repeated applications of sludge. Thus the 4.5 kg/ha per year limit means that the soil limit will be reached on average in 100 years. The factors used for other heavy metals covered by the Directive range from 23 to 60 years. It would be more consistent if a 50 year factor were to be accepted uniformly. Even this limit would be restrictive for many UK sewage treatment works with higher than average chromium levels in the sludges produced.

2.2.4 Amendment to existing Directives

In January 1989 the European Commission published a proposal for a Directive (COM(88)752 final) to amend the arrangements by which four key EC Water Directives can be modified in light of scientific and technical progress. The Directives concerned are 80/778/EEC on drinking water, 75/160/EEC on bathing water, 75/440/EEC on surface water and 79/869/EEC on methods of measurement and frequencies of analysis of surface water.

The Commission's new proposal is intended to improve and accelerate practical implementation of these Directives. Each of these already contain procedures for adapting them to technical progress, generally

through adaptation committees comprising representatives of the Member States and chaired by the Commission. However, these committees have only a limited field of action. The new proposal would establish a new Regulatory Committee, constituted as before, for each Directive. These Committees would be able to agree amendments of a much more wide-ranging nature than their predecessors. The opinion of the Committees would be reached by a qualified majority of the Members, in direct contrast to the unaminous agreement required at present for changing any of these Directives. The arrangements for voting by qualified majority are set out in Table 1 below.

Table 1 - Voting by qualified majority

The voting power of each country is determined basically by its population, but with adjustments made to safeguard the interests of smaller Member States. Legislative proposals cannot be adopted by a simple majority but need at least 54 of the 76 available votes before they are passed.

France	10	Spain	8	Portugal	5
Italy	10	Belgium	5	Demark	3
UK	10	Greece	5	Eire	3
West Germany	10	Netherlands	5	Luxembourg	2

This weighted voting system means that at least seven Member States must support a proposal before it can be adopted. Hence a major nation such as the UK requires at least two, and up to four, allies if it is to resist an item of legislation which is not to its liking.

2.2.5 Nitrates

A proposal for a Council Directive (COM(88)708 final) concerning the "protection of fresh, coastal and marine water against pollution caused by intake from diffuse sources" has recently been published by the European Commission. This has the objective of avoiding:

- the concentration of nitrate in freshwater, both surface and ground, reaching a level at which it could interfere with the legitimate uses of these waters,

- o eutrophication of surface, estuarial, coastal and marine waters.

Thus it will require Member States to designate vulnerable zones according to the criteria given above and for these zones to:

- o restrict the number of livestock animals according to the land available for manure spreading,

- o introduce rules for manure spreading and for the storage of manure during prohibited periods,

- o set limits for the quantity of chemical fertiliser applied and for its method of application,

- o consider other controls on land-use practices,

- o limit, for zones vulnerable to eutrophication, the nitrogen content of sewage effluent to 10 mg/l except for installations serving populations of less than 5000 people.

The House of Lords Select Committee on Science and Technology - sub Committee-D for Agricultural and Food Research is examining the proposal and WRc has presented both verbal and written evidence on the proposal to the sub-Committee (WRc Report PRU 2138-M).

At present the overall view seems to be developing that the measures proposed will receive wide support in principle from both conservationists and water suppliers to Europe. However the possibility of achieving the stated objective and the practicability of the measures remain in question.

SECTION 3 - STUDIES ON DANGEROUS SUBSTANCES

Summaries of studies on dangerous substances during the period under review are given below. Also included are details of a DoE Circular on the implementation of the EC Directive on dangerous substances.

3.1 RED LIST SUBSTANCES

One of the agreements reached at the Second International Conference on the Protection of the North Sea held in London in November 1987 was that the North Sea littoral states should draw up measures to "reduce urgently and drastically the total amount of substances that are persistent, toxic and liable to bioaccumulate reaching the aquatic environment of the North Sea with the aim of achieving a substantial reduction (of the order of 50%) in the total inputs from rivers and estuaries between 1985 and 1995". In particular, measures already in hand to reduce inputs for those substances which were already the subject of specific action (for example, controlled by a "daughter" Directive of the framework Directive on pollution caused by certain dangerous substances) should be intensified and positive action taken by setting concrete targets to reduce inputs of other potentially significant pollutants of the North Sea. In the UK the overall list of priority pollutants for which action was urgently needed became known as the "Red List".

The agreed list for the UK has recently been published by DoE (DoE News Release No 194, 10 April 1989) and is reproduced in Table 2.

It will be seen that the agreed List consists of 23 substances (plus associated compounds). It differs somewhat from the list proposed in the original Consultative Document. Thus carbon tetrachloride, chloroform, 3-chlorotoluene and chloroprene have been omitted and the triphenyl tin compounds have been added. The reasons for these changes were that:

Table 2 - UK Red List

		CAS NUMBER
*	Mercury and its compounds	
*	Cadmium and its compounds	
*	Gamma-Hexachlorocyclohexane	00058-89-9
*	DDT	00050-29-3
*	Pentachlorophenol	00087-86-5
*	Hexachlorobenzene	00118-74-1
*	Hexachlorobutadiene	00087-68-3
*	Aldrin	003090-00-2
*	Dieldrin	00060-57-1
*	Endrin	00072-20-8
	Polychlorinated biphenyls	01336-36-3
	Dichlorvos	00062-73-7
	1,2-Dichloroethane	00107-06-2
	Trichlorobenzene	12022-48-1
	Atrazine	01912-24-9
	Simazine	00122-34-9
	Tributyltin compounds	
	Triphenyltin compounds	
	Trifluralin	001582-09-8
	Fenitrothion	00122-14-5
	Azinphos-methyl	00086-50-0
	Malathion	00121-75-5
	Endosulfan	0115-29-7

* List I Substance

i) carbon tetrachloride and chloroform, though EC List I substances, did not justify Red List status on the basis of the DoE selection scheme and

ii) insufficient data were available to assess 3-chlorotoluene and chloroprene which were relegated to the list of first priority candidate Red List substances - the first reserve list.

ESL issued in February 1989 fact sheets for each of the substances contained in the first priority candidate Red List (WRc Report PRU 2092-M). Preliminary EQS values are currently being derived under contract to the DoE for those substances for which EQS values are not yet available.

3.2 LIST I SUBSTANCES

Proposals for limit values and quality objectives (standards) were published in September 1988 for four candidate List I substances - 1,2 dichloroethane, trichloroethene, tetrachloroethene and trichlorobenzene (COM(88)432 final). Comments on the environmental quality standards proposed by the Commission have been published by ESSL (WRc Report PRU 2053-M) and have been sent to the Water Industry and Government for consideration.

The proposed standards for the first three of the substances listed above appear to be based on WHO Drinking Water Guidelines rather than ecotoxicity considerations. For the protection of aquatic life the standards appear unnecessarily stringent by a factor of between 2 and 10. For trichlorobenzene ,for example, the EQS proposed by the European Commission (0.1 µg/l) and by WRc (1 µg/l) (WRc Report DoE No 1646-M) differs by a factor of 10 which is related to the different additional safety factors applied to the toxicity data to take into account the bioaccumulation potential.

3.3 LIST II SUBSTANCES

Environmental Quality Standards (EQS) are currently being prepared on behalf of DoE for the dichlorobenzenes, simazine and atrazine.

3.4 DoE ANNOUNCEMENT ON DANGEROUS SUBSTANCES

DoE has recently published Circular No 7/89 (DoE)/No 16/89 (Welsh Office) to replace an earlier Circular (No 18/85 (DoE)/No 37/85 (Welsh Office)) on the implementation of the EC Directives 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment. The Circular provides:

a) Environmental Quality Standards (EQS) and Limit Values (UES) for the different List I substances agreed so far by the Community.

b) Notes on the implementation of Directives relating to specific List I substances.

c) Environmental Quality Standards for a number of List II substances for different water-uses and the timescale and requirements for their implementation.

d) Requirements for the control of discharges containing asbestos to water.

SECTION 4 - RELATIONSHIPS WITH INTERNATIONAL ORGANISATIONS

Over the years WRc has developed wide-ranging relationships with many international organisations. This has led WRc to participate in many key conferences and meetings, organised by the international organisations, presenting technical papers at a majority of these. Through this route WRc has been able to learn of the latest developments elsewhere in Europe and is able also to promote its and the UK's philosophy and expertise on pollution control. Of particular note over the period under review are the following events.

4.1 EUROPEAN INSTITUTE FOR WATER

The European Institute for Water (EIW) was founded in 1983 under the auspices and with the financial assistance of the European Commission. It meets at Como near to Milan in Italy. Its main function is to provide a forum to review difficulties in implementing existing water and environmental Directives and to consider proposals made by the Commission for new Directives. WRc has been very closely involved with the work of EIW and has co-ordinated two of its seminars.
Recently WRc has participated in three EIW Seminars. These are described below.

4.1.1 Pesticides parameter in the Drinking Water Directive (November 1988)

This was a follow-up to a similar EIW Seminar held in the Spring of 1988. Both were co-ordinated by ESL and were arranged to discuss the present difficulties experienced by several Member States to comply with the MAC for Parameter 55 (Pesticides and related products) of the EC Drinking Water Directive. The recent Seminar was attended by representatives from the water industry, manufacturers of pesticides and agriculture.

It was accepted by the Seminar that in many places throughout the Community there would be a problem in supplying water which complied with the MAC for Parameter 55 in the short to medium term. Exceedences occur and treatment of the water to remove pesticides was not a reliable practical solution in the short term. An overall reduction of the use of pesticides and/or changes in the formulation of the product will take time to be effective. Turning off the supply when the MAC is exceeded (as has been done) is not a viable solution since it can cause grave difficulties for hospitals and for the fire-fighting services and can lead to serious health risks for the public.

The MAC for pesticides was set originally on the basis of limits of detection of analytical methods for some organo-chlorine pesticides rather than on toxicologial considerations. In these circumstances the water supply should be maintained providing that there is no significant increase in the risk to the health of consumers. Water suppliers therefore need interim limits for specific substances, based on toxicological data and these should apply Community-wide.

The Seminar stressed that, when the level of pesticides in the drinking water supply exceeds the MAC, immediate remedial measures should be undertaken by the pollution control authorities to reduce or even to prohibit further inputs of pesticides within the catchment. The consumer must be given a full explanation of the situation and of the basis for interim limits. The time-table for achieving compliance with the MAC, which should be as short as practicable, consistent with the

time needed for remedial measures to be effective, should also be published.

4.1.2 Drinking Water Directive (March 1989)

The Seminar was held against the background of the Commission's proposal (COM(88)752 final) to facilitate amendment of four directives including the Drinking Water Directive in the light of scientific and technical progress. Thus it covered the practical difficulties and the financial implications of implementing the Drinking Water Directive. Papers were presented by authors from France, the UK and Portugal. All countries represented agreed that meeting 100% compliance with all parameters was not possible and pointed out the high marginal cost of meeting near 100% compliance for some parameters which did not give rise to health hazards. It was suggested that local discretion should be available to cover occasional infringements of the standards for these cases.

The Seminar also concluded that more attention should be sought to controls on pollution at source coupled with an integrated policy on water directives. There was pressure for scientific documents to support directives which would help in decision making when MACs are infringed.

Private supplies were also pointed out as posing particular problems in implementing the Directive and some tolerance in application was suggested.

4.1.3 Ecological quality of surface water (May 1989)

This Seminar was organised to consider the requirements of a proposed Directive on the ecological quality of surface water which the Commission has been developing recently and which it hopes to publish later this summer.

Details of the Commission's proposal were not given at the Seminar. However, it will probably include the introduction of a harmonised

classification scheme, applicable throughout the Community, involving non-numerical ecological standards. Monitoring requirements will probably be specified and the data gathered will have to be made available to the public as well as to the Commission.

No clear conclusions on the Commissions proposal were reached at the Seminar except to stress the difficulties regarding its implementation. The Commission's representative though did make two very important observations:

i) The practice in the past of preparing draft directives in semi-secret and then of negotiating modifications at official level has led to confrontation. This has not produced good results because there were no informal consultation's with those who would have to implement or comply with the directives. Seminars similar to that organised by EIW are more useful in ensuring that directives have a much wider measure of support and that problems are foreseen and avoided.

ii) The Commission should not try and supplant individual Member States but should support them and agree common European goals with them. Directives should not conflict with or replace national regulations but should incorporate and harmonise them.

4.2 WORLD HEALTH ORGANISATION

WRc has been the World Health Organisation (WHO) Collaboration Centre for Drinking Water and Water Pollution Control since 1980. Initially the agreement was for a three year period but following successful reviews of the collaboration in 1983 and 1986 the agreement was extended first until 1986 and then to 1989. Negotiations are currently in progress to renew the agreement for a further three years.

The collaboration has involved WRc offering WHO advice on a wide range of water and environmental matters and attending international conferences on behalf of WHO often presenting papers. In exchange WRc has been invited to participate in many high level international

meetings where the latest health and environmental problems have been discussed. In particular WRc has been closely involved in the revision of WHO Drinking Water Guidelines which has formed the basis for many of the values given in the EC Drinking Water Directive.

4.3 OTHER MAJOR CONFERENCE

A paper by A R Agg and T F Zabel of ESL entitled "Recent developments affecting the management of discharges to surface waters" was presented at a Conference on Drainage and Waste Management into the 1990s. The conference, which was held to mark the centenary of the Dundee Institute of Technology, attracted some 75 delegates representing Scottish authorities, consultants and contractors active in Scotland and a few overseas visitors.

The paper describes the approaches used in selecting candidate substances for the Red List and other priority setting exercises, highlighting the difficulties presented by lack of data for individual chemicals and the use of default values. Also discussed are the problems associated with estimating the input loads of rivers and direct discharges with particular reference to monitoring requirements and analytical performance criteria. Finally the paper considers methods of control available to achieve significant load reductions of inputs of dangerous substances to the aquatic environment. These include additional effluent treatment, control of process wastes, control of use, improved application techniques, and possible replacement by less toxic or persistent alternative substances.

Although the conference recognised the need to control substances which cause significant damage in the environment, considerable concern was expressed by delegates about the possible imposition of technology-based treatment requirements for sewage and wastewaters regardless of the characteristics of the receiving water. The introduction of increasingly stringent water quality standards without adequate justification based on field data was also criticised.

An updated version of the paper is being prepared for publication.

SECTION 5 - EUROPEAN SURVEYS

Two important surveys of European conditions and practice have been published recently. These are described below.

5.1 QUALITY OF COMMUNITY BATHING WATERS

The European Commission introduced a Directive concerning the quality of bathing water (76/160/EEC) on 8 December, 1975. This established mandatory (I) and guide-values (G) for most of 19 physical, chemical parameters with which waters at recognised bathing areas should conform. The Directive gave 10 years (until the end of 1985) to carry out remedial actions to achieve compliance. It also required that Member States should submit regular reports on the quality of their bathing water to the Commission, and, with their agreement, to publish the most significant characteristics of these reports.

A report summarising the information submitted on bathing water quality by Member States, (with the exception of Portugal (exempt until 1992), Spain and Greece), for the 1983-86 bathing seasons has recently been published by the Commission. This shows that the Member States have each adopted different monitoring programmes for their bathing waters and have taken different approaches in presenting the data. As a consequence it is difficult to compare the quality of bathing water in the various Member States. Nevertheless Table 3 has been constructed from the information given in the "Summary of the most important results obtained" contained in the report. This table shows for each of the Member States who reported their results details of the number of sampling points for fresh and salt water bathing areas for 1983 and for 1986 and the respective sampling frequencies/season and the percentage of sampling points where the quality of the bathing water conforms with the Directive (or at least with the I (mandatory) values for the microbiological parameters). Great care should be taken in interpreting the table since the basis used for conformity with the Directive varies according to the Member State concerned. From the results it may be concluded that there was an overall improvement in the quality of bathing water in most Member States from 1983 to 1986.

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Table 3 - Summary of bathing water quality in the European Community

MEMBER STATE	NO OF SAMPLING POINTS				SAMPLING FREQ/SEASON				% OF CONFORMING SAMPLING POINTS				NOTES
	FRESH WATER		SEA WATER		FRESH WATER		SEA WATER		FRESH WATER		SEA WATER		
	1983	1986	1983	1986	1983	1986	1983	1986	1983	1986	1983	1986	
Belgium	43	48	15	18	-	6-8	-	9-13	65	77	13	50	Conformity in relation to I values for Parameter 1 (Total coliforms) 2 (Faecal coliforms) and 4 (Salmonella)
FRG	All points	1982 1986	98 106							(100)		(100)	Not possible to compare with other Member States. German authorities claim that I values met at all bathing areas
Denmark	All points	1983 1986	1314 1327		All points	1983 1986	13 11		All points	1983 1986	78 77		Based on Parameter 2 (Faecal coliforms) for sea water plus Parameter I (Total coliforms) for fresh water
France	1730	1935	1757	1726	6	6	12	11	65	79	76	86	Conform with all I values
Ireland	0	0	6	7			6-9				-	86	Conform with I values for microbiological parameters
Italy	-	490	(1984) 1926	3526	-	7-8	(1984) 7	10	All points	1984 1986	69 82		Estimated values in relationship with I values for all parameters
Luxemburg	43	43	-	-	3	3	-	-	79	77	-	-	Conformity in relationship to I values for total and faecal coliforms
Netherlands	All points	1983 1986	50 47		Not specified				All points	1983 1986	90 94		Based on Dutch evaluation of microbiological quality (faecal coliforms, faecal streptococci and salmonella)
United Kingdom	0	0	(1985) 27	491	0	0	15	11	0	0	-	44	Based on I values for parameter I (total coliforms) and 2 (faecal coliforms)

However, usually only the microbiological parameters in the Directive are considered and even then the quality of the bathing water at only about 80% of the sampling points conform with the I (mandatory) values for those parameters.

5.2 IMPLEMENTATION OF DRINKING WATER DIRECTIVE

ESL has recently published the outcome of a study, part-funded by DoE, on the implementation of the EC Directive 80/778/EEC relating to the quality of water intended for human consumption (Drinking Water Directive) in six Member States (WRc Report DoE 1964-M/2). The purpose of the study was to provide information which would assist DoE in the consultations now taking place on the revision of the UK regulations on drinking water quality.

The Member States covered were Denmark, Federal Republic of Germany, France, Italy, The Netherlands and Spain. Institutional arrangements in five of the countries were investigated by the Institute for European Environmental Policy in a sub-contract paid for by the DoE. WRc, through country visits, concentrated on the technical and practical aspects of implementation and prepared the final report.

The review deals with the manner in which the Drinking Water Directive has been implemented in these Member States and outlines the responsiblities of the bodies at national, regional and local levels, for the quality of water supplies and for monitoring programmes. Particular attention was paid to the definition of the Maximum Admissible Concentration (MAC) levels for parameters given in the Directive and to actions taken when MACs are exceeded for particular parameters. Details of the problem parameters for given Member States are also recorded in the report.