

NATIONAL RIVERS AUTHORITY
AWDURDOD AFONYDD CENEDLAETHOL

WELSH REGION
RHANBARTH CYMRU



NRA

Guardians of the Water Environment
Diogelwyr Amgylchedd Dŵr

GUIDELINES ON STATUTORY RETURNS:

DANGEROUS SUBSTANCES DIRECTIVE

2) LIST 2 SUBSTANCES



ASiantaeth yr Amgylchedd Cymru
ENVIRONMENT AGENCY WALES

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ENVIRONMENT AGENCY



097179

(EA - Welsh Region)

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DANGEROUS SUBSTANCES DIRECTIVE

2) LIST 2 SUBSTANCES

INTRODUCTION

EC Directive 76/464/EEC of 4th May 1976 concerns pollution caused by certain dangerous substances discharged into the environment. This lists two groups of chemicals, with the first list - the List 1, comprising a group of dangerous substances selected mainly on the basis of their toxicity, persistence and bioaccumulation. The second group, the List 2, are substances that can also have a deleterious effect on the aquatic environment but which are confined to a given area and are dependent on the characteristics and location of the receiving waters. The List 1 substances are the subject of a separate document.

Member States are charged with taking steps to reduce pollution by List 2 chemicals, where pollution is defined as "the discharge by man, directly or indirectly, of substances or energy into the aquatic environment, the results of which are such as to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water". The "competent authority" charged with the responsibility for the implementation of the Directive is the National Rivers Authority and will be referred to as the "Authority".

The Authority must determine consent conditions for individual discharges of List 2 substance so that the receiving water quality is maintained as far below the quality standard as practicable.

List 2 substances are currently subject to nationally set controls. In the UK these are environmental quality standards (EQSs). It is possible that national controls will be "harmonised" in a future List 2 Directive. The Government has issued Circular 7/89/DOE(16/89 WO) on the implementation of controls of List 1 and List 2 substances. This document summarises the requirements in relation to Welsh Region.

Monitoring

The Authority is required to undertake sufficient monitoring to demonstrate that in waters affected by discharges of List 2 substances the relevant quality standard is being consistently achieved. The frequency of this monitoring is to be decided by the Authority. Sampling should take place sufficiently close to the point of discharge to be representative of the quality of the receiving water in the area affected by the discharge.

In addition to monitoring the receiving waters of a discharge the discharge itself must be monitored. Although these results are not required by DOE on an annual basis they must be collected in order to demonstrate the degree of compliance with the consent set in accordance with achievement of the EQS.

Submission of Returns

The Authority has to submit the following returns:-

Initially

- a) lists and/or maps showing all surface waters affected by discharges of each List 2 substance.
- b) quality standards applied in each case, or indicate that a "standstill" has been applied. A "standstill" dictates that measurements of the substances concerned should not show deterioration in quality over a number of years taking into account recognised statistical variation, and may only be applied if the Authority considers the quality standards to be inappropriate or unattainable in the immediate future.
- c) location of discharges and monitoring points, either by means of maps or within written descriptions that include OS national grid reference numbers.

The above information need only be supplied once. Subsequent changes should be notified with annual returns.

Annually

- a) results of monitoring in those waters where the appropriate quality standards are not being achieved.
- b) details of the reasons for failures identified in a) and measures to enable the standards to be met, together with timetables for their implementation.

Reporting of Information

To facilitate data retrieval a macro (JDPLIST2INLAND) has been set up on the VME system to provide the results of monitoring at List 2 inland water sites. Separate retrievals are required for each estuary so that a mean of all sample points within each separate estuary can be assessed for compliance with the EQSs.

INLAND WATERS - MONITORING POINTS FOR DISCHARGES ENTERING RIVERS

<u>Water Body</u>	<u>D/stream Sample Point</u>	<u>Discharge Sample Point</u>	<u>Discharge Point Description</u>
<u>South East</u>			
R. Wye	50024	51007 51008	Hereford Eign STW Hereford Rotherwas STW
R. Wye	50032	51211	Monmouth STW
R. Wye	50028	51214	Ross STW
R. Arrow	50058	51164	Leominster (Worcester Rd) STW
R. Arrow	50053	51161	Kington STW
R. Lugg	50037	51091	Presteign STW
Worm Brook	50167	53480 53481	Pontrilas Timber Pt A Pontrilas Timber Pt C
R. Usk	40960	42032	Abergavenny STW
R. Usk	40910	42004	Brecon STW
R. Clydach	40240	42005	Brynmawr STW
20 Acre Reen	41076	43113	BSC Whiteheads
R. Ebbw	40350	43112	BSC Ebbw Vale
R. Taff	17011	17079	Hoovers
R. Taff	68323	65717 17095	Cilfynydd STW Cynon STW
R. Ely	68425	16024	Royal Mint
R. Ely	16012	16044	Duffryn Isaf STW
Nant Morlais	17045	BSC Dowlais closed. Discharge no longer exists but river still sampled.	
R. Cadoxton	15001	15020	Dow Corning Recycle Pond

<u>Water Body</u>	<u>D/stream Sample Point</u>	<u>Discharge Sample Point</u>	<u>Discharge Point Description</u>
<u>South West</u>			
R. Tawe	30005	30063 30058	INCO No.7 18" Outfall INCO No.11 30" Outfall
R. Tawe	30001	30063 30058	INCO No.7 18" Outfall INCO No.11 30" Outfall
R. Tawe	30004	30063 30058	INCO No.7 18" Outfall INCO No.11 30" Outfall
R. Dafen	30802	No consented	discharges above sample site.
R. Dafen	30803	30812	Llanelli Radiators
<u>North</u>			
R. Mawddach	20003	20373	Adit - Gwynfynydd Mine, Glanllwyd
R.Hirgwm	20158	20258	Adit - Clogau Mine, Bontddu
R.Cefni	27501	27575	Llangefni STW Final Effluent

INLAND WATERS - LOCATION OF SAMPLING POINTS

Monitoring of List 2 substances takes place at points on rivers downstream of discharges containing those substances. The table below shows the sites which should be monitored at present.

South East

50024	R. Wye, Carrots Pool, Hampton Bishop	SO 5515 3805
50032	R. Wye, Redbrook Railway Bridge	SO 5360 0982
50028	R. Wye, Kerne Bridge, Goodrich	SO 5805 1920
50058	R. Arrow, at Confluence with R. Lugg	SO 5100 5670
50053	R. Arrow, at Downfield Farm Bridge	SO 3163 5726
50037	R. Lugg, at Rossers Bridge, Presteigne	SO 3486 6410
50167	Worm Brook, at Confluence with R. Dore	SO 4010 2820
40960	R. Usk, Llanellen Bridge	SO 3056 1100
40910	R. Usk, Llanfrynach Road Bridge	SO 0774 2728
40240	R. Clydach, Prince Albert Bridge	SO 2153 1249
41076	20 Acre Reen	ST 3105 8632
40350	R. Ebbw Fawr, d/s Victoria Bridge	SO 1752 0703
17011	R. Taff, at Troedyrhiw Bridge	SO 0690 0230
68323	R. Taff, below Cilfynydd STW	ST 0850 9200
68425	R. Ely, at Lanelay Fach Bridge	ST 0330 8277
16012	R. Ely, at Ynysmaerdy Bridge	ST 0340 8458
17045	Nant Morlais, at Merthyr Tydfil	SO 0466 0634
15001	R. Cadoxton, at Bendrick's Roundabout	ST 1343 6769

South West

30005	R. Tawe, Ynystanglws Gauging Station	SS 6850 9980
30001	R. Tawe, Morryston Road Bridge	SS 6740 9790
30004	R. Tawe, Footbridge to Cae Sewerage, Clydach	SN 6890 0120
30802	R. Dafen, above Nuffield Works Outfall	SN 5299 0140
30803	R. Dafen, Maescanner Road Bridge	SN 5280 0110

North

20003	R. Mawddach, Ty'n Y Groes Hotel Bridge	SH 7297 2337
20158	R. Hirgwm, Afon Cwm Llecaen U/S Bont Ddu Water Treatment Works	SH 6692 1866
27501	R. Cefni, Pont-Y-Gors, Gaerwen	SH 4614 7306

The river stretches represented by these sample points are shown in Appendix 1.

INLAND WATERS - MONITORING DETAILS

Submission of monitoring data to DOE: Annually by 30 April for preceding calendar year.

EQS: Appendix 2 shows EQSs for each water use for List 2 substances.

Frequency of Sampling: Monthly

Determinands used: See following page.

Water use: The water use of each stretch is shown in the following table and is used for setting the EQS against which the results are assessed. These EQSs are shown in Appendix 2.

ARG used: EF02

Pollution Control should notify the Senior Environmental Regulations Scientist if a discharge of a List 2 substance commences or changes in his area so that an appropriate monitoring programme can be set up.

A copy of data retrievals for sample points which fail to achieve their EQS will be circulated to appropriate Pollution Control Managers. Pollution Control Managers should supply Strategic Planning with reasons for failure and an explanation of planned remedial action.

Only sites which fail to achieve their EQS are reported to DOE/Welsh Office.

A copy of the final version of the return will be circulated to Pollution Control Managers for information and to note any missing data, for rectification in the following year's monitoring programme.

A copy will also be sent to the Senior Environmental Regulations Scientist.

DETERMINANDS USED AND WATER USE:

Water Body	Sample Point Number	Water Use	Determinands Required	Determinand Code
<u>South East</u>				
ALL			dis. magnesium dis. calcium total hardness	235 mg/l 239 mg/l 158 mg/l
R. Wye	50024	salmonid	dis. copper dis. chromium dis. nickel total zinc	7213 ug/l 7373 ug/l 7427 ug/l 7245 ug/l
R. Wye	50032	salmonid	total zinc	7245 ug/l
R. Wye	50028	salmonid	total zinc	7245 ug/l
R. Arrow	50058	salmonid	total zinc	7245 ug/l
R. Arrow	50053	salmonid	total zinc	7245 ug/l
R. Lugg	50037	salmonid	total zinc	7245 ug/l
Worm Brook	50167	salmonid	dis. copper dis. chromium dis. arsenic	7213 ug/l 7373 ug/l 7354 ug/l
R. Usk	40960	salmonid	dis. copper total zinc	7213 ug/l 7245 ug/l
R.Usk	40910	salmonid	total zinc	7245 ug/l
R. Clydach	40240	cyprinid	dis. copper total zinc	7213 ug/l 7245 ug/l
20 Acre Reen	41076	cyprinid	dis. copper dis. lead total zinc	7213 ug/l 52 ug/l 7245 ug/l
R. Ebbw	40350	salmonid	dis. copper dis. chromium	7213 ug/l 7373 ug/l
R. Taff	17011	salmonid	dis. nickel total zinc	7427 ug/l 7245 ug/l
R. Taff	68323	salmonid	dis. copper dis. chromium dis. lead dis. nickel total zinc	7213 ug/l 7373 ug/l 52 ug/l 7427 ug/l 7245 ug/l
R. Ely	68425	cyprinid	dis. copper dis. chromium dis. lead dis. nickel total zinc	7213 ug/l 7373 ug/l 52 ug/l 7427 ug/l 7245 ug/l

Water Body	Sample Point Number	Water Use	Determinands Required	Determinand Code
R. Ely	16012	cyprinid	dis. copper dis. chromium dis. lead dis. nickel total zinc	7213 ug/l 7373 ug/l 52 ug/l 7427 ug/l 7245 ug/l
Nant Morlais	17045	salmonid	total zinc	7245 ug/l
R. Cadoxton	15001	salmonid	dis. copper	7213 ug/l
<u>South West</u>				
ALL			dis. magnesium dis. calcium total hardness	235 mg/l 239 mg/l 158 mg/l
R. Tawe	30005	salmonid	dis. copper dis. nickel	7213 ug/l 7427 ug/l
R. Tawe	30001	salmonid	dis. copper dis. nickel	7213 ug/l 7427 ug/l
R. Tawe	30004	salmonid	dis. copper dis. nickel	7213 ug/l 7427 ug/l
R. Dafen	30802	cyprinid	dis. copper dis. lead total zinc	7213 ug/l 52 ug/l 7245 ug/l
R. Dafen	30803	cyprinid	dis. copper dis. lead total zinc	7213 ug/l 52 ug/l 7245 ug/l
<u>North</u>				
ALL			dis. magnesium dis. calcium total hardness	235 mg/l 239 mg/l 158 mg/l
R. Mawddach	20003	salmonid	dis. copper total zinc	7213 ug/l 7245 ug/l
R. Hirgwm	20158	salmonid	dis. copper dis. lead total zinc	7213 ug/l 52 ug/l 7245 ug/l
R. Cefni	27501	salmonid	dis. copper dis. chromium dis. lead dis. nickel total zinc	7213 ug/l 7373 ug/l 52 ug/l 7427 ug/l 7245 ug/l

EQSs are set according to water hardness and use so for each sampling point hardness data should be collected. Hardness is a calculated determinand derived from dissolved calcium and dissolved magnesium contents.

ESTUARINE WATERS - MONITORING POINTS FOR DISCHARGES ENTERING ESTUARINE WATERS

The sample points of the List 2 discharges entering estuaries in Wales are shown below.

<u>Water Body</u>	<u>Discharge Monitoring Point</u>	<u>Discharge Point Description</u>
<u>South East</u>		
Severn Estuary	42053	Western Valley Trunk Sewer
	68025	Cardiff East Rover Way Sewer
	68024	Cardiff East Roath Sewer
	19003	Cardiff Central Sewer
	16062	Cardiff Western District PS
Usk Estuary	45360	Ponthir STW
Bendricks Bay	15001	R.Cadoxton, Bendricks R'bout
<u>South West</u>		
Swansea Bay	74008	New Sea Outfall
	19017	BSC Abbey Outfall
	19020	BSC Margam Outfall
	110809	Baglan Sewage Pumping Station
	74593	BP Chemicals (Baglan)
	30365	Mumbles Head Outfall
Afan Estuary	70513	Mechema Chemicals, Port Talbot
	11009	ABP (Mechema) Sewer to Afan
Tawe Estuary	30063	INCO No.7 18" Outfall
	30058	INCO No.11 30" Outfall
	30006	Nant y Fendrod
<u>North</u>		
Dee Estuary	8239	Alchemia Ltd
	8219	Warwick International Ltd
	8215	British Steel, Shotton
	8209	Nipa Laboratories (Graessers)
	7322	Queensferry STW
	7314	Chester STW
	8212	Makins Papermill
	8238	Shotton Paper Co.
	8201	Pilkingtons Insulation Products)

ESTUARINE WATERS - LOCATION OF SAMPLING POINTS

The locations of sample points used to monitor Welsh estuaries are shown below.

Severn Estuary

68663	Cardiff Central sampled at sea	ST 2088 7350
68661	Y & P Trunk Sewer sampled at sea	ST 2380 7700
90005	Goldcliff	
90006	Uskmouth No. 1 Buoy	
42092	Western Valley Trunk Sewer sampled at sea	ST 2940 8030
90007	Opposite Peterstone Gout, between RVTS and WVTS	
90008	Rhymney	
68662	Cardiff East sampled at sea	ST 2185 7600
90009	Cardiff Flats	
90010	Lavernock Point	

Usk Estuary

41110	Upstream of Caerleon Road Bridge	ST 3412 9026
41124	Downstream of Newport Road Bridge	ST 3123 8842

Bendricks Bay

15001	R.Cadoxton at Bendrick's Roundabout	ST 1343 6769
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Swansea Bay

74051	Off Mumbles Outfall - 500m downtide of slick	SS 6370 8713
74052	Off Baglan Outfall - 500m downtide of slick	SS 7045 8832
74053	Off BSC Outfall - 500m downtide of slick	SS 7360 8440

Afan Estuary

71003	River Afan at Dock Entrance	SS 7540 8880
71005	River Afan at Old Bridge	SS 7550 8930

Tawe Estuary

30008	New Cut Bridge, Swansea	SS 6610 9320
72035	River Tawe opposite Addis Factory	SS 6645 9530
30007	Landore Bridge, Swansea	SS 6660 9620
72033	River Tawe at 600 Group Access Bridge	SS 6710 9713

Dee Estuary

3751	River Dee off Greenfield Lane	SJ 2020 7830
3748	River Dee - Station 21 at Break in Training Wall	SJ 2660 7240
3643	River Dee - Mostyn Tip End	SJ 1620 8170
3736	River Dee - Station 9 off Bagillt	SJ 2200 7660
3660	River Dee at Connah's Quay Slipway	SJ 3030 6985
3511	River Dee at Llanerch-y-Mor	SJ 1780 7960
3750	River Dee off Flint Castle	SJ 2490 7430
3505	River Dee at Hawarden Bridge	SJ 3110 6939

Also at:

74054	SEJC Centre Channel Site No.1 (Centre of line between Nash Point & Hurleston Point)	SS 909 585
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ESTUARINE WATERS - MONITORING DETAILS

Submission of monitoring data to DOE: Annually by 30 April for preceding calendar year.

EQS: Appendix 2 shows EQSs for each water use for List 2 substances.

Frequency of Sampling: 6 samples per year.

Determinands used: Estuarine sample points are sampled for all List 2 substances. These substances are shown below.

	dissolved copper	det. code	7213	ug/l
	dissolved chromium	det. code	7373	ug/l
	dissolved arsenic	det. code	7354	ug/l
	dissolved lead	det. code	52	ug/l
	dissolved nickel	det. code	7427	ug/l
	dissolved zinc	det. code	7243	ug/l
and from January 1990:	total boron	det. code	7763	ug/l
	dissolved iron	det. code	7419	ug/l
	pH	det. code	61	
	total vanadium	det. code	7768	ug/l
	total organotins	det. code	9598	ug/l
and from January 1992:	mothproofing agents:			
	total PCSDs	det. code	*	
	total cyfluthrin	det. code	*	
	total sulcofuron	det. code	*	
	total flucofuron	det. code	*	
	total permethrin	det. code	*	

* to be set up prior to January 1992

ARG used: EE02

Pollution Control should notify the Senior Environmental Regulations Scientist if a discharge of a List 2 substance commences or changes in his area so that an appropriate monitoring programme can be set up.

A copy of data retrievals for estuaries which fail to achieve their EQS will be circulated to appropriate Pollution Control Managers. Pollution Control Managers should supply Strategic Planning with reasons for failure and an explanation of planned remedial action.

Only estuaries which fail to achieve their EQS are reported to DOE/Welsh Office.

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Appendix 1

RIVER STRETCH INFORMATION FOR INLAND WATER LIST 2 MONITORING

Water Body	DOE Reach Code	Stretch Length (km)	Sample Point Number Representing Stretch
<u>South East</u>			
R. Wye	055/01-001/12	3.8	50024
R. Wye	055/01-001/03	3.2	50032
R. Wye	055/01-001/07	7.6	50028
R. Arrow	055/01-039/01	17.3	50058
R. Arrow	055/01-039/04	1.0	50053
R. Lugg	055/01-024/18	3.0	50037
Worm Brook	055/01-011/01	0.7	50167
R. Usk	056/06-001/28	5.3	40960
R. Usk	056/06-001/46	2.3	40910
R. Clydach	056/06-116/01	1.6	40240
20 Acre Reen		0.4	41076
R. Ebbw	056/07-001/18	3.1	40350
R. Taff	057/02-001/33	4.0	17011
R. Taff	057/02-001/23	1.2	68323
R. Ely	057/03-001/19	1.6	68425
R. Ely	057/03-001/20	0.3	16012
Nant Morlais	057/02-106/01	3.1	17045
R. Cadoxton	058/01-001/01	1.0	15001
<u>South West</u>			
R. Tawe	059/01-001/02B	1.7	30005
R. Tawe	059/01-001/03B	0.6	30001
R. Tawe	059/01-001/02A	3.4	30004
R. Dafen	059/03-005/01A	0.2	30802
R. Dafen	059/05-005/01B	4.2	30803
<u>North</u>			
R. Mawddach	064/03-001/03	2.4	20003
R. Hirgwm		1.0	20158
R. Cefni	102/02-001/01	0.8	27501

Appendix 2

ENVIRONMENTAL QUALITY STANDARDS IMPLEMENTED IN 1976

<u>Quality Objective</u> (b)	Hardness	Copper(d)	Chromium	Arsenic	Lead(c)	Nickel	Zinc
FRESH WATER							
Protection of sensitive aquatic life eg. salmonid fish (a)	0-50	1AD(5P)	5AD	50AD	4AD	50AD	8AT(30P)
	50-100	6AD(22P)	10AD	50AD	10AD	100AD	50AT(200P)
	100-150	10AD(40P)	20AD	50AD	10AD	150AD	75AT(300P)
	150-200	10AD(40P)	20AD	50AD	20AD	150AD	75AT(300P)
	200-250	10AD(40P)	50AD	50AD	20AD	200AD	75AT(300P)
	250+	28AD(112P)	50AD	50AD	20AD	200AD	125AT(500P)
Protection of other aquatic life eg. cyprinid fish	0-50	1AD(5P)	150AD	50AD	50AD	50AD	75AT(300P)
	50-100	6AD(22P)	175AD	50AD	125AD	100AD	175AT(700P)
	100-150	10AD(40P)	200AD	50AD	125AD	150AD	250AT(1000P)
	150-200	10AD(40P)	200AD	50AD	250AD	150AD	250AT(1000P)
	200-250	10AD(40P)	250AD	50AD	250AD	200AD	250AT(1000P)
	250+	28AD(112P)	250AD	50AD	250AD	200AD	500AT(2000P)
SALT WATER							
Protection of salt water life		5AD	15AD	25AD	25AD	30AD	40AD

All values given as ug/l except hardness which is as mg/l.

A = Annual average

P = 95% of samples

D = Dissolved

T = Total

(a) see page 17

(b) see page 17

(c) see page 17

(d) see page 17

Appendix 2 (continued)

ENVIRONMENTAL QUALITY STANDARDS IMPLEMENTED IN 1990

<u>Quality Objective(b)</u>	<u>Boron(e)</u>	<u>Iron(e, f)</u>	<u>pH</u>	<u>Vanadium</u>	<u>Hardness (Vanadium only)</u>	<u>Tributyl- tin</u>	<u>Triphenyl- tin</u>
FRESH WATER							
Protection of sensitive aquatic life eg. salmonid fish(a)	2000AT	1000AD	6.0-9.0P	20AT	0-200	0.02MT	0.02MT
				60AT	200+		
Protection of other aquatic life eg. cyprinid fish	2000AT	1000AD	6.0-9.0P	20AT	0-200	0.02MT	0.02MT
				60AT	200+		
SALT WATER							
Protection of salt water life	7000AT	1000AD	6.0-8.5P(h)	100AT		0.002MT(i)	0.008MT(i)

All values given as ug/l except hardness which is as mg/l, and pH where 95% samples must lie within the range shown.

A = Annual average

P = 95% of samples

M = Maximum allowable concentration

D = Dissolved

T = Total

(a) see page 17

(b) see page 17

(e) see page 17

(f) see page 17

(h) see page 17

(i) see page 17

Appendix 2 (continued)

ENVIRONMENTAL QUALITY STANDARDS TO BE IMPLEMENTED IN 1992

<u>Quality Objective</u> (b)	PCSDs	Mothproofing Agents			
		Cyfluthrin	Sulcofuron	Flucofuron	Permethrin
FRESH WATER					
Protection of sensitive aquatic life eg. salmonid fish(a)	0.05PT	0.001PT	25PT	1.0PT	0.01PT
Protection of other aquatic life eg. cyprinid fish	0.05PT	0.001PT	25PT	1.0PT	0.01PT
SALT WATER					
Protection of salt water life	0.05PT	0.001PT	25PT(g)	1.0PT(g)	0.01PT(g)

All values given as ug/l

P = 95% of samples

T = Total

(a) see page 17

(b) see page 17

(g) see page 17

Appendix 2 (continued)

ENVIRONMENTAL QUALITY STANDARDS - footnotes

- (a) In some cases more stringent values may be appropriate locally to protect particularly sensitive flora or fauna.
- (b) Other standards may be applicable for other particular water uses eg crop irrigation & livestock watering. - see WRC reports or consult ADAS.
- (c) If a significant proportion of the lead present is organic more stringent standards may be necessary (the standards given assume the lead present is almost entirely inorganic). Where breeding populations of rainbow trout are present the standard for lead should be 50% of that recommended for sensitive aquatic life.
- (d) Higher concentrations of copper may be acceptable where the presence of organic matter may lead to complexation.
- (e) Certain crops are particularly sensitive to these substances & may need more stringent standards for irrigation.
- (f) Toxicity of iron increases at pHs below 7, so more stringent standards may be required, especially where pH is below 6.5.
- (g) These standards may need to be reviewed when more data becomes available.
- (h) A more restricted range of 7.0 - 8.5 should be applied for the protection of shellfish.
- (i) Further analytical development is required before these standards can be verifiable in receiving waters. However these standards can be used in calculating acceptable concentrations in effluents.

JDP/CDS - PL/SP/SR13 12 June 1990