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Northern Ireland Environment Agency

Compliance with Drinking Water Quality Standards in Northern Ireland, 2010

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An Agency within the Department of the
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Compliance with Drinking Water Quality Standards in Northern Ireland in 2010

To satisfy regulatory requirements for monitoring drinking water quality, samples are required to be collected from different locations within the water supply chain: from water treatment works, water supply points, service reservoirs, and water supply zones (consumers' taps). The Regulations contain specific Schedules which identify what parameters are to be tested for and under what circumstances. The results of the monitoring carried out by Northern Ireland Water Ltd (NI Water) for 2010 are presented in the following summary tables.

Table 1.1: Quality of Water Leaving Water Treatment Works - European Directive Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Works with Failures
Nitrite (works)	0.1 mg NO ₂ /l	278	0	0.00	0
Total		278	0	0.00	0

Table 1.2: Quality of Water Leaving Water Treatment Works - National Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Works with Failures
Coliform bacteria	0/100ml	7573	1	0.02	1
<i>Escherichia coli</i>	0/100ml	7573	0	0.00	0
Total		15146	1	0.01	

Table 1.3: Quality of Water Leaving Water Treatment Works - Additional European Monitoring Requirements

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Works with Failures
Colony counts @ 22°C	No abnormal change	7569			
Colony counts @ 37°C	No abnormal change	7569			
Residual disinfectant (Free chlorine mg/l)		7572			
Residual disinfectant (Total chlorine mg/l)		7572			
Turbidity	1 NTU	7563	29	0.38	10
Total		37845	29	0.08	

Number of Water Treatment Works = 31

Table 1.4: Quality of Water Leaving Service Reservoirs - National Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Reservoirs with Failures
Coliform bacteria	0/100ml	16,966	8	0.05	8
<i>Escherichia coli</i>	0/100ml	16,966	1	0.01	1
Total		33,932	9	0.03	

Table 1.5: Quality of Water Leaving Service Reservoirs - Additional European Monitoring Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Reservoirs with Failures
Colony counts @ 22°C	No abnormal change	16,966			
Colony counts @ 37°C	No abnormal change	16,966			
Residual disinfectant (Free Chlorine mg/l)		16,966			
Residual disinfectant (Total chlorine mg/l)		16,966			
Total		67,864			

Number of Service Reservoirs = 330

Table 1.6: Quality of Water Leaving Supply Points - European Directive Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
1,2-dichloroethane	3 µg/l	424	0	0.00	0
Benzene	1 µg/l	424	0	0.00	0
Boron	1 mg B/l	423	0	0.00	0
Cyanide	50 µg CN/l	274	0	0.00	0
Fluoride	1.5 mg F/l	275	0	0.00	0
Mercury	1 µg Hg/l	423	0	0.00	0
Pesticides - 2,4-D	0.1 µg/l	275	0	0.00	0
Pesticides - 2,4-DB	0.1 µg/l	275	0	0.00	0
Pesticides – Aldrin	0.03 µg/l	275	0	0.00	0
Pesticides - Alpha-cypermethrin	0.1 µg/l	275	0	0.00	0
Pesticides - Asulam	0.1 µg/l	275	0	0.00	0
Pesticides – Atrazine	0.1 µg/l	275	0	0.00	0

Table 1.6: Quality of Water Leaving Supply Points - European Directive Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Pesticides – Bentazone	0.1 µg/l	275	0	0.00	0
Pesticides – Bromoxynil	0.1 µg/l	275	0	0.00	0
Pesticides – Carbendazim	0.1 µg/l	275	0	0.00	0
Pesticides – Chloromequat	0.1 µg/l	275	0	0.00	0
Pesticides - Chlorothalonil	0.1 µg/l	275	0	0.00	0
Pesticides - Chlorpyrifos	0.1 µg/l	275	0	0.00	0
Pesticides - Clopyralid	0.1 µg/l	275	0	0.00	0
Pesticides - Cypermethrin	0.1 µg/l	275	0	0.00	0
Pesticides - Diazinon	0.1 µg/l	275	0	0.00	0
Pesticides - Dicamba	0.1 µg/l	275	0	0.00	0
Pesticides – Dichlorbenil	0.1 µg/l	275	0	0.00	0
Pesticides – Dichlorophen	0.1 µg/l	275	0	0.00	0
Pesticides – Dichlorprop	0.1 µg/l	275	0	0.00	0
Pesticides – Dichlorvos	0.1 µg/l	275	0	0.00	0
Pesticides – Dieldrin	0.03 µg/l	275	0	0.00	0
Pesticides - Diquat	0.1 µg/l	275	0	0.00	0
Pesticides – Diuron	0.1 µg/l	275	0	0.00	0
Pesticides - Endrin	0.1 µg/l	275	0	0.00	0
Pesticides - Fenpropridin	0.1 µg/l	275	0	0.00	0
Pesticides - Fenpropimorph	0.1 µg/l	275	0	0.00	0
Pesticides - Fluroxypyr	0.1 µg/l	275	0	0.00	0
Pesticides - Glyphosate	0.1 µg/l	275	0	0.00	0
Pesticides - Heptachlor	0.03 µg/l	275	0	0.00	0
Pesticides - Heptachlor epoxide	0.03 µg/l	275	0	0.00	0

Table 1.6: Quality of Water Leaving Supply Points - European Directive Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Pesticides - Hexachlorobenzene	0.1 µg/l	275	0	0.00	0
Pesticides - Isoproturon	0.1 µg/l	275	0	0.00	0
Pesticides - Linuron	0.1 µg/l	275	0	0.00	0
Pesticides - MCPA	0.1 µg/l	275	1	0.36	1
Pesticides - MCPB	0.1 µg/l	275	0	0.00	0
Pesticides - MCPP (Mecoprop)	0.1 µg/l	275	0	0.00	0
Pesticides - Metalaxyl	0.1 µg/l	275	0	0.00	0
Pesticides - op-DDT	0.1 µg/l	275	0	0.00	0
Pesticides - pp-DDT	0.1 µg/l	275	0	0.00	0
Pesticides - Pendimethalin	0.1 µg/l	275	0	0.00	0
Pesticides - Pentachlorophenol	0.1 µg/l	275	0	0.00	0
Pesticides - Phorate	0.1 µg/l	275	0	0.00	0
Pesticides - Propazine	0.1 µg/l	275	0	0.00	0
Pesticides – Propetamphos	0.1 µg/l	275	0	0.00	0
Pesticides - Simazine	0.1 µg/l	275	0	0.00	0
Pesticides - Triclopyr	0.1 µg/l	275	0	0.00	0
Pesticides - Trifluralin	0.1 µg/l	275	0	0.00	0
Pesticides: Total	0.5 µg/l	275	1	0.36	1
Tetrachloroethene and Trichloroethene	10 µg/l	424	0	0.00	0
Total		15,867	2	0.01	

Table 1.7: Quality of Water Leaving Supply Points - National Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Tetrachloromethane	3 µg/l	424	0	0.00	0
Total		424	0	0.00	

Table 1.8: Quality of Water Leaving Supply Points – Additional European Monitoring Requirements

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Chloride	250 mg Cl/l	274	0	0.00	0
<i>Clostridium perfringens</i> (including spores)	0/100 ml	2,891	0	0.00	0
Conductivity	2500 µS/cm at 20°C	2,882	0	0.00	0
*Gross Alpha	0.1 Bq/l	26	0	0.00	0
*Gross Beta	1 Bq/l	26	0	0.00	0
Sulphate	250 mg SO ₄ /l	274	0	0.00	0
Total organic carbon	No abnormal change (mgC/l)	274	0	0.00	0
Tritium (for radioactivity)	100 Bq/l	26	0	0.00	0
Total		6,673	0	0.00	

*Monitored for the calculation of total indicative dose.
Number of Supply Points = 31

Table 1.9: Quality of Water at Consumers' Taps (Water Supply Zones) - European Directive Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
1,2-dichloroethane	3 µg/l	424	0	0.00	0
Antimony	5 µg Sb/l	423	0	0.00	0
Arsenic	10 µg As/l	423	0	0.00	0
Benzene	1 µg/l	424	0	0.00	0
Benzo(a)pyrene	0.01 µg/l	424	0	0.00	0
Boron	1 mg B/l	423	0	0.00	0
Bromate	10 µg BrO ₃ /l	424	0	0.00	0
Cadmium	5 µg Cd/l	423	0	0.00	0
Chromium	50 µg Cr/l	423	0	0.00	0
Copper	2 mg Cu/l	424	0	0.00	0
Cyanide	50 µg CN/l	274	0	0.00	0
<i>Escherichia coli</i>	0/100 ml	4,728	2	0.04	2
Enterococci	0/100 ml	424	0	0.00	0
Fluoride	1.5 mg F/l	275	0	0.00	0
Lead	25 µg Pb/l	424	2	0.47	2
Mercury	1 µg Hg/l	423	0	0.00	0
Nickel	20 µg Ni/l	423	0	0.00	0
Nitrate	50 mg NO ₃ /l	424	0	0.00	0
Nitrite	0.5 mg NO ₂ /l	424	0	0.00	0
Pesticides – Aldrin	0.03 µg/l	275	0	0.00	0
Pesticides - Dieldrin	0.03 µg/l	275	0	0.00	0
Pesticides - Heptachlor	0.03 µg/l	275	0	0.00	0
Pesticides - Heptachlor epoxide	0.03 µg/l	275	0	0.00	0
Pesticides - MCPA	0.1 µg/l	275	1	0.36	1

Table 1.9: Quality of Water at Consumers' Taps (Water Supply Zones) - European Directive Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
Pesticides - other Substances	0.1 µg/l	11,550	0	0.00	0
Pesticides: Total	0.5 µg/l	275	1	0.36	1
Polycyclic aromatic Hydrocarbons	0.1 µg/l	424	0	0.00	0
Selenium	10 µg Se/l	423	0	0.00	0
Tetrachloroethene and Trichloroethene	10 µg/l	424	0	0.00	0
Trihalomethanes: Total	100 µg/l	432	8	1.85	6
Total		26,957	14	0.05	

Table 1.10: Quality of Water at Consumers' Taps (Water Supply Zones) - National Standards

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
Aluminium	200 µg Al/l	1,736	10	0.58	8
Colour	20 mg/l Pt/Co	1,736	0	0.00	0
Iron	200 µg Fe/l	1,736	35	2.02	24
Manganese	50 µg Mn/l	1,736	6	0.35	5
Odour	Acceptable to consumers and no abnormal change	1,736	17	0.98	11
Sodium	200 mg Na/l	424	0	0.00	0
Taste	Acceptable to consumers and no abnormal change	1,734	7	0.40	4
Tetrachloromethane	3 µg /l	424	0	0.00	0
Turbidity	4 NTU	1,736	1	0.06	1
Total		12,998	76	0.58	

Table 1.11: Quality of Water at Consumers' Taps (Water Supply Zones) - Additional European Monitoring Requirements

Parameter	Prescribed Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
Ammonium	0.5 mg NH ₄ /l	1,736	0	0.00	0
Chloride	250 mg Cl/l	274	0	0.00	0
<i>Clostridium perfringens</i> (including spores)	0/100 ml	2,891	0	0.00	0
Coliform bacteria	0/100 ml	4,728	20	0.42	15
Colony counts @ 22°C	No abnormal change	1,736			
Colony counts @ 37°C	No abnormal change	1,736			
Conductivity	2500 µS/cm at 20°C	2,882	0	0.00	0
*Gross Alpha	0.1 Bq/l	26	0	0.00	0
*Gross Beta	1 Bq/l	26	0	0.00	0
Hydrogen ion	maximum pH value 9.5	1,736	1	0.06	1
	minimum pH value 6.5				
Residual disinfectant (Free chlorine) mg/l		4,728			
Residual disinfectant (Total chlorine) mg/l		4,728			
Sulphate	250 mg SO ₄ /l	274	0	0.00	0
Total organic carbon	No abnormal change (mgC/l)	274	0	0.00	0
Tritium (for radioactivity)	100 Bq/l	26	0	0.00	0
Total		27,801	21	0.08	

*Monitored for the calculation of total indicative dose.
Number of Water Supply Zones = 55