

Compliance with Drinking Water Quality Standards in Northern Ireland, 2015

November 2016



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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 2015 are presented in the following summary tables.

Table 1.1: 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	6,356	1	0.02	1
<i>Escherichia coli</i>	0/100ml	6,356	0	0	0
Total		12,712	1	0.01	

Table 1.2: 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	0.1 mg NO ² /l	60	0	0	0
Total		60	0	0	

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

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	6,356	0	0	0
Colony counts @ 37°C	No abnormal change	6,356	0	0	0
Residual disinfectant (Free chlorine mg/l)		6,356			
Residual disinfectant (Total chlorine mg/l)		6,356			
Turbidity	1 NTU	6,356	20	0.31	12
Total		31,780	20	0.06	

Number of Water Treatment Works = 25

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	15,433	20	0.13	20
<i>Escherichia coli</i>	0/100ml	15,433	2	0.01	2
Total		30,866	22	0.07	

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	15,433	0	0	0
Colony counts @ 37°C	No abnormal change	15,433	0	0	0
Residual disinfectant (Free Chlorine mg/l)		15,433			
Residual disinfectant (Total chlorine mg/l)		15,433			
Total		61,732	0	0	

Number of Service Reservoirs = 297

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
Cyanide	50 µg CN/l	232	0	0	0
Pesticides - 2,4-D	0.1 µg/l	232	0	0	0
Pesticides - 2,4-DB	0.1 µg/l	232	0	0	0
Pesticides - Aldrin	0.03 µg/l	0*			
Pesticides - Bentazone	0.1 µg/l	232	0	0	0
Pesticides - Bromoxynil	0.1 µg/l	232	0	0	0
Pesticides -Chlorotoluron	0.1 µg/l	232	0	0	0
Pesticides - Chlorpyrifos	0.1 µg/l	232	0	0	0
Pesticides - Clopyralid	0.1 µg/l	232	0	0	0
Pesticides - Dicamba	0.1 µg/l	232	0	0	0
Pesticides - Dichlorprop	0.1 µg/l	232	0	0	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 - Dieldrin	0.03 µg/l	0*			
Pesticides - Diuron	0.1 µg/l	232	0	0	0
Pesticides - Epoxiconazole	0.1 µg/l	232	0	0	0
Pesticides - Fenpropimorph	0.1 µg/l	232	0	0	0
Pesticides - Fluroxypyr	0.1 µg/l	232	0	0	0
Pesticides - Glyphosate	0.1 µg/l	232	0	0	0
Pesticides - Heptachlor	0.03 µg/l	0*			
Pesticides - Heptachlor epoxide	0.03 µg/l	0*			
Pesticides - Isoproturon	0.1 µg/l	232	0	0	0
Pesticides - Linuron	0.1 µg/l	232	0	0	0
Pesticides - MCPA	0.1 µg/l	232	4	1.72	3
Pesticides - MCPP (Mecoprop)	0.1 µg/l	232	0	0	0
Pesticides - Metalaxyl	0.1 µg/l	232	0	0	0
Pesticides - Metoxuron	0.1 µg/l	232	0	0	0
Pesticides - Metribuzin	0.1 µg/l	232	0	0	0
Pesticides - Pendimethalin	0.1 µg/l	232	0	0	0
Pesticides - Phorate	0.1 µg/l	232	0	0	0
Pesticides - Pirimicarb	0.1 µg/l	232	0	0	0
Pesticides - Propachlor	0.1 µg/l	232	0	0	0
Pesticides - Propiconazole	0.1 µg/l	232	0	0	0
Pesticides - Propyzamide	0.1 µg/l	232	0	0	0
Pesticides - Prothioconazole	0.1 µg/l	232	0	0	0
Pesticides - Tebuconazole	0.1 µg/l	232	0	0	0
Pesticides - Triclopyr	0.1 µg/l	232	0	0	0
Pesticides: Total	0.5 µg/l	232	0	0	0
Total		7,424	4	0.05	

*A waiver was granted.

Table 1.7: 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	388	0	0	0
Clostridium perfringens (including spores)	0/100 ml	2,197	3	0.14	3
Conductivity	2500 µS/cm at 20°C	2,197	0	0	0
Total indicative dose*	0.1 mSv/year	25	0	0	0
Sulphate	250 mg SO ₄ /l	388	0	0	0
Total organic carbon	No abnormal change (mg C/l)	232	0	0	0
Tritium (for radioactivity)	100 Bq/l	25	0	0	0
Total		5,452	3	0.05	

*Gross alpha and gross beta are used to monitor for indicative dose (radioactivity).

Number of Supply Points = 25

Table 1.8: Quality of Water at Consumer 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	388	0	0	0
Antimony	5 µg Sb/l	388	0	0	0
Arsenic	10 µg As/l	388	0	0	0
Benzene	1 µg/l	388	0	0	0
Benzo(a)pyrene	0.01 µg/l	388	0	0	0
Boron	1 mg B/l	388	0	0	0
Bromate	10 µg BrO ₃ /l	388	0	0	0
Cadmium	5 µg Cd/l	388	0	0	0
Chromium	50 µg Cr/l	388	0	0	0
Copper	2 mg Cu/l	388	1	0.26	1
Enterococci	0/100 ml	388	0	0	0
Escherichia coli	0/100 ml	5,160	1	0.02	1
Fluoride	1.5 mg F/l	388	0	0	0
Lead	10 µg Pb/l	388	8	2.06	5
Mercury	1 µg Hg/l	388	0	0	0
Nickel	20 µg Ni/l	388	1	0.26	1
Nitrate	50 mg NO ₃ /l	388	0	0	0

Table 1.8: Quality of Water at Consumer 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
Nitrite*	0.5 mg NO ₂ /l	0	0	0	0
Polycyclic aromatic hydrocarbons (PAH)	0.1 µg/l	388	0	0	0
Selenium	10 µg Se/l	388	0	0	0
Tetrachloroethene and Trichloroethene	10 µg/l	388	0	0	0
Trihalomethanes: Total	100 µg/l	388	1	0.26	1
Total		12,920	12	0.09	

*Results were not UKAS accredited and, therefore, not reported.

Table 1.9: Quality of Water at Consumer 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	1,876	14	0.75	9
Colour	20 mg/l Pt/Co	1,876	0	0	0
Iron	200 µg Fe/l	1,876	30	1.60	19
Manganese	50 µg Mn/l	1,876	2	0.11	2
Odour	Acceptable to consumers and no abnormal change	1,876	12	0.64	7
Sodium	200 mg Na/l	388	0	0	0
Taste	Acceptable to consumers and no abnormal change	1,876	5	0.27	4
Tetrachloromethane	3 µg/l	388	0	0	0
Turbidity	4 NTU	1,876	5	0.27	4
Total		13,908	68	0.49	

Table 1.10: Quality of Water at Consumer 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	1,876	0	0	0
Chloride	250 mg Cl/l	388	0	0	0
Coliform bacteria	0/100 ml	5,160	35	0.68	24
Colony counts @ 22°C	No abnormal change	1,876	0	0	0
Colony counts @ 37°C	No abnormal change	1,876	0	0	0
Hydrogen ion	maximum pH value 9.5	1,876	2	0.11	1
	minimum pH value 6.5				
Residual disinfectant (Free chlorine) mg/l		5,160			
Residual disinfectant (Total chlorine) mg/l		5,160			
Sulphate	mg SO ₄ /l	388	0	0	0
Total		23,760	37	0.16	

**Monitored for the calculation of total indicative dose.*

Number of Water Supply Zones = 50

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