



THE DRINKING WATER
INSPECTORATE
Room M06
55 Whitehall
London
SW1A 2EY

Enquiries: 0300 068 6400
Facsimile: 0300 068 6401

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To:

Jane Davidson AM
Minister for Environment
Sustainability and Housing
Welsh Assembly Government

My report on drinking water quality will be published on the internet on 2 July 2009. It provides a comprehensive commentary on tests carried out during the calendar year of 2008 together with other important facts about the quality and safety of drinking water. The overarching purpose of my report each year is to provide an evidence-based platform for informed dialogue and decisions about drinking water quality. It also records delivery, by the Inspectorate, of drinking water and better regulation policies. I will be discussing the content of my report on Wales at a meeting on 13 July 2009 kindly arranged and hosted by the Consumer Council for Water for Wales. Similar meetings are taking place in the English regions. I place a high importance on these regular annual events which provide an essential reality check on public confidence in drinking water safety and quality.

Compliance with drinking water standards

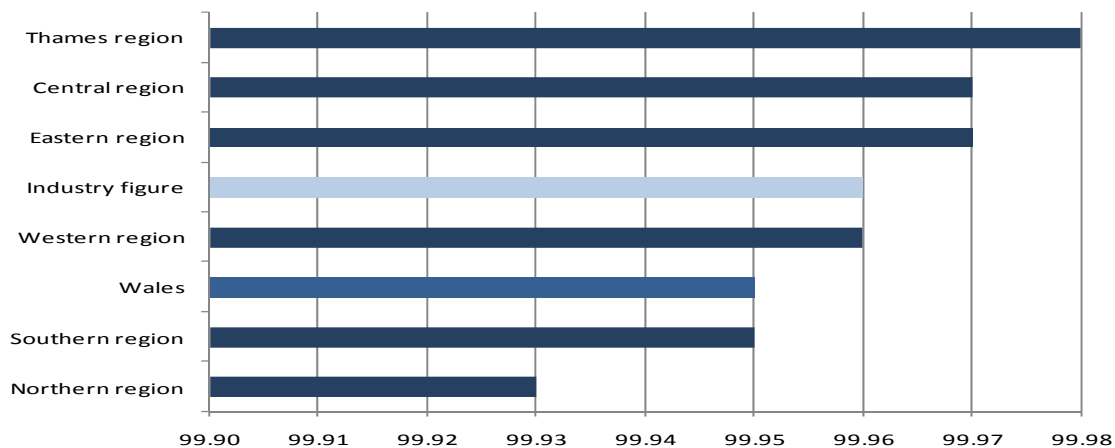
The overall results of drinking water quality testing in 2008 show that the water industry in Wales and England achieved 99.96% compliance with the European Drinking Water Directive. The figure for Wales was 99.95%, an improvement on 2007. These results are comparable with the best presently reported in Europe by the Netherlands.

During the year the Inspectorate continued to work closely with its equivalents across Europe on comparable reporting arrangements for drinking water quality. All European countries, including those in the UK, have identified and agree that 'small water supplies' are the most problematic, not just in terms of safety and security, but also in terms of competent management, reporting and regulation. The emergence

of this consensus makes it inevitable that action to improve the safety of small water supplies in Europe will feature highly in the upcoming revision of the Drinking Water Directive. In the UK, Scotland and Northern Ireland have already improved private water supply regulations. In 2008, I advised that priority should be given to similar changes in Wales and England, a view fully supported by the National Public Health Service for Wales and the Health Protection Agency. In particular I recommended the introduction of a risk-based approach founded on World Health Organisation Water Safety Plan methodology. In total there are 3,562 private supplies in Wales of which 389 supply more than 10m³ per day. The risk posed by private water supplies is well documented in the context of recent *E.coli* 0157 outbreaks and is further evidenced in my report this year by two incidents in England where a private water supply contaminated the public water supply through an illegal cross connection.

Looking more closely at the quality of public water supplies in 2008 compliance in Wales was comparable to that of the Southern region of England (99.95%). The lowest quality compliance in the English regions is 99.93% (Northern) and the best tap water quality can be found in the Thames region (99.98%).

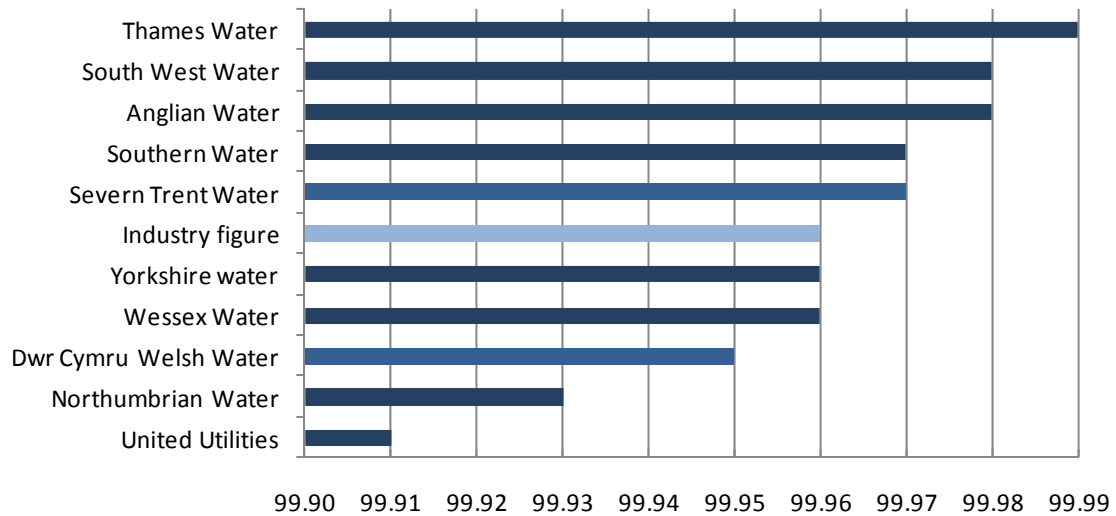
Overall compliance¹ with Drinking Water standards for Wales and English regions



At water company level, six of the ‘combined water and sewerage’ companies achieved a better compliance record and the top performer was Thames Water with a figure of 99.99%. The compliance figure for Dŵr Cymru Welsh Water was unchanged at 99.95% and lies below the industry average. Also below average were Northumbrian Water, United Utilities and Wessex Water.

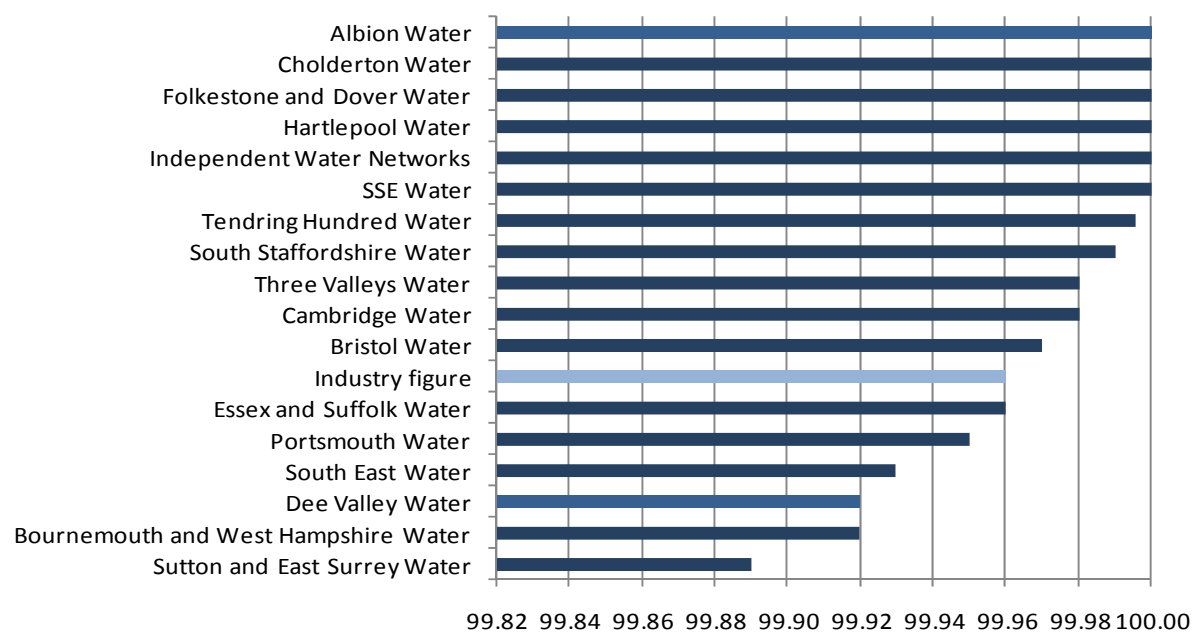
¹ Compliance with 39 EU and National standards

Compliance with drinking water standards for 'combined water and sewage' companies



Among the 'water only' companies and licensees, six small companies achieved 100% compliance however eight others reported a lower compliance figure in 2008 compared to 2007. Dee Valley Water with a figure of 99.92% was below the industry figure along with four of the English 'water only' companies. The purpose of these comparisons is to contribute to the forward risk-based work programme of my inspectors, thereby ensuring the Inspectorate's resources are focused where improvement is most needed to secure clean, safe drinking water for consumers.

Compliance with drinking water standards for 'water only' companies



Water supply management

There are several components of water supply management that are critical to providing consumers with drinking water that is clean and safe. These are source water quality monitoring and protection, water treatment, maintenance of the network and effective advice and controls relating to plumbing and water fittings.

Water treatment

Results at water treatment works in 2008 were mixed. Process control improved to 99.98% with figures for only four companies trending downwards. Both Dŵr Cymru Welsh Water and Dee Valley Water attained 99.99% a good improvement over 2007.

Offsetting the general improvement in process performance were the disinfection index figures. The year, as a whole, has been characterised by deficiencies in disinfection and, as a consequence, the overall industry figure declined from 99.94% in 2007 to 99.93% in 2008. Behind this figure lies a worrying downward trend in the individual figures for 13 companies. The six companies with below industry average figures included both Dŵr Cymru Welsh Water (99.88%) and Dee Valley Water (99.77%). During 2008, across all of the 90 treatment works in Wales, there were three occasions when *E.coli* was detected, 11 samples contained coliform bacteria and on 14 occasions turbidity exceeded the specification. My report sets out the specific circumstances of these failures and the actions taken to protect consumers and prevent a recurrence.

Service reservoirs

A pleasing highlight in 2008 was the overall industry improvement in the quality of treated water stored in service reservoirs and water towers. The industry reservoir integrity index was up to 99.96% from a low of 99.93% in 2007. However, the degree of improvement recorded by Dŵr Cymru Welsh Water and Dee Valley Water was relatively modest and figures for both remain below the industry average at 99.95% and 99.88% respectively. During 2008 across all of the 633 service reservoirs in Wales there were three occasions when *E.coli* was detected and 23 samples contained coliform bacteria. Regrettably the Inspectorate continues to be critical of Dŵr Cymru Welsh Water for tardy and incomplete investigations of service reservoir failures.

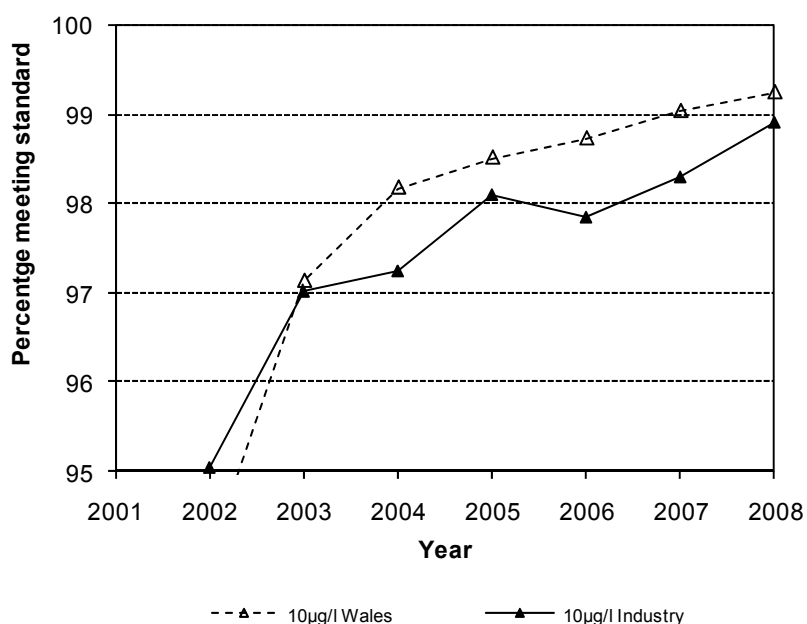
Tap water quality

Improved for the first time in 2008 is the figure reflecting water quality parameters influenced by the design and condition of consumers' plumbing and water fittings. Across the industry tap water quality, as measured by this index, now stands at 99.87% up from 99.85%. The most common tap water quality failures are due to lead pipes and solder, old galvanised steel pipes, chrome plated plastic taps, a lack

of good tap and kitchen hygiene and artificially softened drinking water. This improvement should encourage the industry to extend their efforts to raise householder awareness by promotion of the industry leaflet, *Looking After Water in Your Home*, developed last year. I am very pleased to record that Anglian Water has partnered the Inspectorate in an initiative to make advice on drinking water quality available to all expectant parents across the UK. The publication, *You and Your Family*, steered by the Royal College of Obstetricians and Gynaecologists is being distributed by midwife-led health units starting at the end of this month and will be available online from mid-July.

Turning to probably the most important tap water standard in terms of children's health, presented below is the updated picture of progress towards meeting the future standard for lead of 10µg/l by 2013 in Wales and across the industry. This demonstrates the beneficial effect of the water treatment measures put in place since 2004.

Percentage of samples meeting the future lead standard of 10µg/l for Wales and the industry



However water treatment is insufficient to achieve full compliance with this health based standard everywhere and companies in Wales are required to have control measures in place to remove lead communication pipes as part of pre-planned work on the distribution system and whenever a sample result fails the future lead standard of 10µg/l. The incident in 2007 when lead solder was used illegally in a new housing development in Anglesey has highlighted the importance of companies in Wales being proactive about exercising their powers under the water fittings regulations. In the case in question the developer went bankrupt and Dŵr Cymru Welsh Water has had to work

with residents to put things right in the 34 properties affected. The company has since introduced an inspection regime to identify any further similar situations.

Consumer acceptability

Industry-wide there has been a substantive step forward in the acceptability of drinking water to consumers in 2008. In the three-year period ending 2008, consumer reports of 'dirty' water in Wales and England combined have fallen by 20% (from 87,517 to 70,648 in 2008). In Wales there has been a 24% improvement and reports of dirty water from Welsh consumers now stand at 8,545 (compared to 11,272 in 2006). There continue to be problems in some parts of Wales, where long-term mains rehabilitation programmes are not due for completion until late 2009. Nonetheless, the consumer evidence of benefit from the ten year investment in the mains network is now compelling.

Fewer consumers had need to turn to the Inspectorate for help in resolving their drinking water quality complaint during the year. In total the Inspectorate handled 80 complaints down from 130 in 2006. In Wales there were just 4 complaints from Welsh consumers to the Inspectorate compared to 7 last year. However one of these was a spokesperson for a group of residents in Abergavenny who had been experiencing dirty water from a cast iron main for a protracted period of time. The Inspectorate established that Dŵr Cymru Welsh Water was aware of this community dissatisfaction and had a remedial flushing programme in place. Following the Inspectorate's intervention the company installed a hydrant to enable high velocity, and thus more effective flushing of the main. This case highlights the importance of companies proactively assessing the efficacy of their maintenance strategies by listening to consumers and analysing consumer contact data to verify that remedies such as flushing are effective.

Incidents

Notwithstanding the good quality of drinking water quality generally, I have to report that it has not been a good year in terms of the impact of water supply management on consumers. Industry-wide, Inspectors this year classified 144 notified events as a water quality incident impacting on consumers and this compares unfavourably with the totals of 129 reported in 2007 and 98 in 2006. On its own, the absolute number of incidents per year is not a meaningful indicator, however, the three year consecutive rise in the number of incidents merits closer scrutiny.

In Wales, there were 22 incidents compared to 18 in 2007. Most of these were due to faults with the operation or performance of Dŵr

Cymru Welsh Water's treatment works, a notable case being the loss of control of coagulation at Llyswen works on three separate occasions during 2008. Multiple incidents were also recorded for Broomy Hill and Pendine works. Precautionary boil water advice had to be issued to consumers on two occasions during the month of August; once when disinfection was bypassed at Penybont works and once due to a heightened risk of *Cryptosporidium* in a raw water source serving two works (Capel Curig and Mynydd Llandegai). Not being satisfied that all of the works operated by Dŵr Cymru Welsh Water comply with the treatment and disinfection requirements of the regulations, the Inspectorate has implemented a regime of independent audit focusing initially in North Wales. The Inspectorate will take a tough stance, including consideration of prosecution, if any audit or subsequent incident investigation reveals serious and persistent flaws in treatment or disinfection arrangements. My report contains the findings, recommendations and enforcement action taken or being considered in respect of every incident.

Regulatory framework

Changes to the regulations which came into force at the end of 2007 provided companies with a formal framework for risk assessment within which they can identify and document all actual and potential hazards arising anywhere in the water supply system from catchment to tap. Companies were required to submit Regulation 28 risk assessment reports by 1 October 2008. Across Wales there are now 30 risk assessments in place based on the water safety plan methodology advocated by the World Health Organisation.

Numbers of Regulation 28 risk assessments in place in Wales and regions of England

Area	Number of risk assessments in place
Wales	30
England	
Central region	30
Eastern region	93
Northern region	114
Southern region	209
Thames region	159
Western region	161

Based on these risk assessments, companies have included in their final business plans (PR09) the actions required to reduce or mitigate any unacceptable risks identified through this new regulatory framework in the medium to long term (Asset Management Plan period

2010 – 2015). The regional reports this year contain annexes showing the number of risk assessments in place in each local authority area.

Looking forward, my inspectors have commenced a detailed assessment of every company risk assessment to verify the methodology and the adequacy of the control measures in place to mitigate risks. Company risk assessment reports will increasingly become the common starting point for all of the work of an inspector whether the task they are engaged upon is auditing, compliance assessment or the investigation of incidents and consumer complaints. This change marks the delivery by the Inspectorate in collaboration with the water industry of Better Regulation Policy in the field of drinking water quality regulation.

A handwritten signature in black ink, appearing to read 'Jeni Colbourne', with a long horizontal line extending to the right.

Professor Jeni Colbourne MBE

Chief Inspector of Drinking Water