

The Effectiveness of Drinking Water Quality Regulation

Drinking water, very basically, is essential to life. Some countries have highly developed water industries providing drinking water and sanitation to the population by various means. The common aim is to provide enough water at a level of quality that does not adversely affect the health of those who consume it.

Developments in both industry and technology mean that today, there are numerous substances that may be present in the sources used for the production of drinking water. These substances need to be minimised in order to prevent their consumption through drinking water. Research has provided the associated health risks for the substances that can potentially be found in water sources. Water suppliers carry the responsibility of reducing these substances through any means available to them. Drinking water production begins at the catchment where risks of contamination to source waters are identified and reduced. There are many different treatment methods available to suppliers that can be utilised to treat the water before it is sent to the consumer via distribution networks. Throughout treatment and distribution, potential for contamination is assessed and effective controls are put in place. This basic system may vary according to the specific circumstances of the country.

Standards are set to ensure that all suppliers, regardless of their size, location, funding etc. produce safe drinking water thus protecting public health. For Members of the European Union there is the Drinking Water Directive (98/83/EC) which is transposed into the national laws of all Member States and in Article 1 states; 'the objective of the Directive shall be to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean'. Each Member State then has the responsibility to ensure that its suppliers are compliant with the European standards which are based on the World Health Organisation (WHO) guideline values.

There are varying models for the regulatory framework to manage compliance with drinking water quality standards which have developed differently due to many country specific conditions; these include historic drinking water provision and political influence.

In England and Wales, the development of the water industry has a very interesting and complex history. One of the most pivotal political decisions affecting the industry was to privatise all the water authorities providing the much needed investment that had been inadequate for many years. The privatisation of the industry meant that there was the need for tight regulation. Putting the provision of a basic need into the hands of private companies would only work if there were controls on the charges and quality; there needed to be a balance

between both, something that should not be the responsibility of the profit making party.

Through the Water Act 1989, a unique tripartite regulatory system was born. The Environment Agency would guard the environment by assessing the water companies' applications for the abstraction of raw water from sources and hence grant licenses. The Drinking Water Inspectorate (DWI), the drinking water regulator for England and Wales, protects public health by monitoring and ensuring water companies' compliance with drinking water standards, seeking undertakings for improvements and carrying out enforcement and prosecution for major infringements. The Office of Water Services (Ofwat), audits the improvement and maintenance programmes of the water companies, setting the price limits they can charge which allow their functions to be carried out whilst still making reasonable profits.

The regulatory framework for this system includes the Water Industry Act 1991 (amended 2003) and the Water Supply (Water Quality) Regulations 2000 and its subsequent 2001 amendment. Under the Water Industry Act is the Information Direction which is the vehicle for the DWI being able to gather the information it needs to determine company compliance. All samples and tests are carried out by the companies and it is a statutory duty for them to provide this information to the DWI.

The system has been in place since 1989 and there have been undeniable improvements to the quality of the drinking water in England and Wales, though this poses some questions; how big a role has the DWI played in being the catalyst for the improvements? Would the quality improvements have been achieved had the regulatory framework been different, the companies remained public or the financial and quality regulator been one entity? – Plus many more.

By looking at the specific operations of the DWI and the sequences of influential decisions over time, there should be a correlation between DWI action and resulting quality improvement. There will be other influencing factors to consider and once a full picture is gained, the future for the regulation of drinking water quality and what has been truly effective will be clear. Critical appraisal of the techniques used by the DWI will identify how it has been successful and where it has not. Comparison with other Member States and the models that have been developed for the achievement of the EU Drinking Water Directive will show trends in the difficulties faced but possibly their unique resolution.

It is vital that the industry continues to move forward and improve its performance against all aspects of drinking water provision. The challenge is to decide how best to do this given the circumstances in England and Wales.