

SUMMARY

- The approaches to the regulation of trihalomethanes (THMs) internationally have been reviewed.
- The new US approach to the regulation of THMs has been reviewed in depth, including the formulation of plans and the monitoring requirements for systems serving different sized populations. The costs of implementation of the new regulations and the benefits to human health estimated by the US Environmental Protection Agency are summarised.
- The data on total THMs levels in the drinking water of all the water companies in England and Wales from 2004-2007 have been collated. These data were then analysed to compare the stringency of the current total THM standard with that of the new US approach if it were to be introduced in England and Wales. These data were analysed to compare exceedances from the present 100 µg/l absolute standard with a locational running annual average of 80 µg/l used in the new US regulation.
- Compliance with the present 100 µg/l standard for TTHMs is very high; there was 99.92% compliance. Moving annual average TTHM concentrations were calculated for individual zones over the period 2004-7. Exceedances of a moving average of 80 µg/l were in all cases less than exceedances of the 100 µg/l standard, both in terms of numbers of individual samples and on a zonal basis.
- Analysis of the results from samples collected from geographically similar locations over the years 2004-2007, although limited, suggested that a requirement to comply with an locational running annual average of 80 µg/l would be no more stringent than the present requirement of an absolute standard of 100 µg/l.
- It was also concluded that distance of the sampling point from the treatment works is not a reliable indicator of the location of likely high TTHM concentrations.
- The implication for the England and Wales of a standard for haloacetic acids (HAAs) such as that set in the USA was assessed. The limited published data on HAAs levels in UK drinking water suggest that a standard of 60 µg/l would lead to a high number of exceedances. However, this study was completed in 2003, and the initial findings of a new study suggest that concentrations of HAA levels in UK drinking water are now much lower than those originally reported.
- The factors affecting the formation of HAAs in drinking water and their removal in treatment process have been summarised.
- The potential costs to the water industry in England and Wales of adopting the US approach to THM regulation were assessed. The analysis of total THM data for England and Wales concluded that the US approach to THMs was no more stringent than the present regulations. Therefore, there were no protective benefits to the UK of adopting the US approach and no potential increases in cost, as there would be no increase in exceedances.
- The cost implications for the water industry of setting a standard for HAAs are unclear at present.