

# Monitoring, costs for cities and RWDs purchasing water may jump

**W**ater supply systems that purchase water from another system and do not rechlorinate the water currently are not required to sample and analyze for disinfection byproducts in the drinking water. However, changes in the law will probably require such monitoring for at least some of these systems. This will increase operation costs and may result in regular public notification to the customers if the levels of the disinfection byproducts are too high.

The U. S. Environmental Protection Agency (EPA) promulgated the Stage 1 Disinfectants and Disinfection Byproducts Rule in December 1998. Water supply systems that

treated the water were required to regularly sample for trihalomethanes (THMs) and haloacetic acids (HAAs) in the drinking water. These systems included those that treat surface waters or groundwater under the direct influence of surface waters at treatment

plants, those that chlorinate well water, and those that purchase and rechlorinate water from another water supply system. The frequency of the sampling depends on the number of persons served and the source of the water, that is, surface water or groundwater. Analyses for most the systems are performed at the KDHE laboratory.

THMs and HAAs are formed by the reactions between the free chlorine used as a disinfectant and the natural organics in the water. There are required maximum contaminant levels (MCLs) for these byproducts. Many treatment

rechlorinate the water are not required to sample for THMs and HAAs. However, when you hear Stage 1 in the title, beware of the possibility of a Stage 2. In fact, the EPA did provide a draft proposal in 2003 for a law called

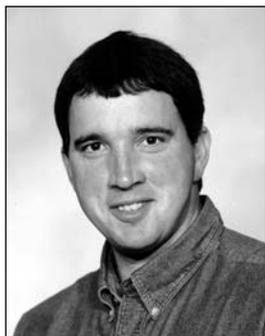
**Currently, water supply systems that purchase water from another system and do not rechlorinate the water are not required to sample for THMs and HAAs.**

plants add ammonia to the water to change the free chlorine to combined chlorine in order to meet the MCLs. Combined chlorine does not react to form THMs and HAAs.

Currently, water supply systems that purchase water from another system and do not

Stage 2 Disinfectants and Disinfection Byproducts Rule. Now some say that the Stage 2 proposal will become law by the end of 2005.

The earlier Stage 2 proposal stated that “consecutive” systems are required to sample and analyze THMs and HAAs in the drinking



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Surface Water Tech*



*This master meter and control vault is the point of interconnection for the wholesale purchase of water. In this case, the purchasing system is a small city that serves only 140 services; the seller operates a surface water plant and provides service to 1100 taps.*

water. A consecutive system is a water supply system that purchases water from another water supply system and does not rechlorinate the water. The present cost for one THMs analysis is \$30; and the cost for one HAAs analysis is \$120. If the levels of either THMs or HAAs are above the MCLs, then there are costs for required public notification.

The earlier Stage 2 Rule proposal stated that an Individual Distribution System Evaluation (IDSE) must be performed in order to determine the sampling location(s) where the levels of the THMs and HAAs will be the highest. The number of samples and frequency

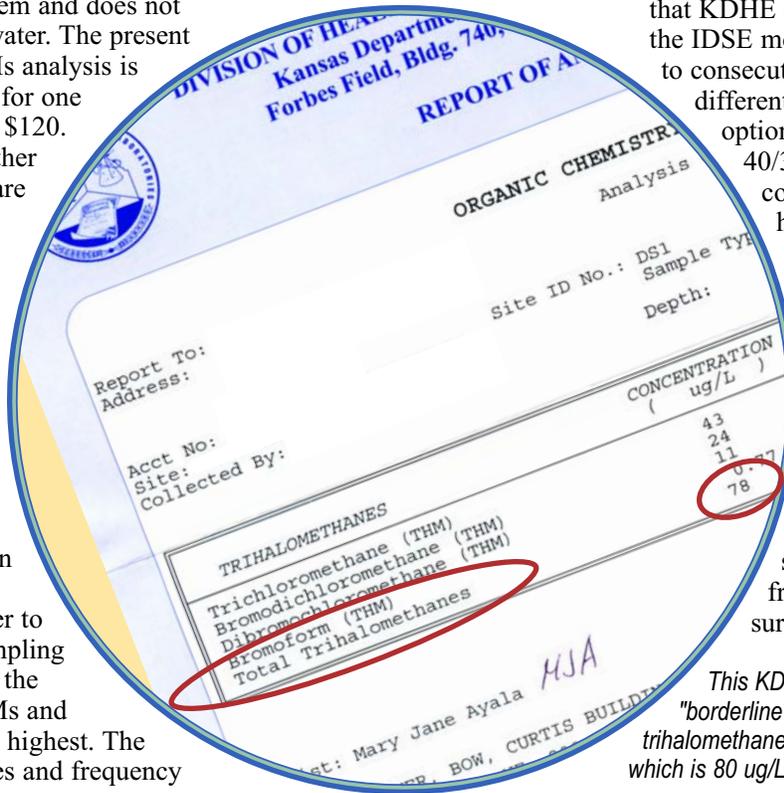
of the sampling will be determined by the population served and the type of water

source, that is, surface or groundwater.

The Stage 2 proposal stated that KDHE could grant waivers of the IDSE monitoring requirements to consecutive systems under two different options. The first option, called by some the 40/30 option, is for consecutive systems that have had sampling results that shows they can meet 40 ug/l for THMs and 30 ug/l for HAAs. These levels are exactly half the MCLs of 80 ug/l for THMs and 60 ug/l for HAAs.

Most consecutive systems that purchase from systems that treat surface water will not

*This KDHE Lab report shows a "borderline" concentration of trihalomethanes nearly to the limit which is 80 ug/L.*



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meet the 40/30 option. One notable exception is those consecutive systems that purchase from Emporia or other cities that use ozone instead of free chlorine for disinfection. Also, those consecutive systems that purchase from a system that has groundwater as its only source will most likely meet this option; however, there may be a few exceptions that do not.

The second option is for consecutive systems that serve fewer than 500 persons. This will be a cost savings in monitoring and possible public notifications for these small systems.

The predicament for consecutive systems is that they have no direct control over the levels of THMs and HAAs in the water. For example, if the primary supply system has THMs that exceed the MCL, then the consecutive system will have THMs that will exceed the MCL.

There is no chance for the consecutive system to be in compliance if the primary system is not in compliance. In fact, if a primary system uses free chlorine and does not add ammonia, the

depending on the final requirements in the Stage 2 Rule when it is made final.

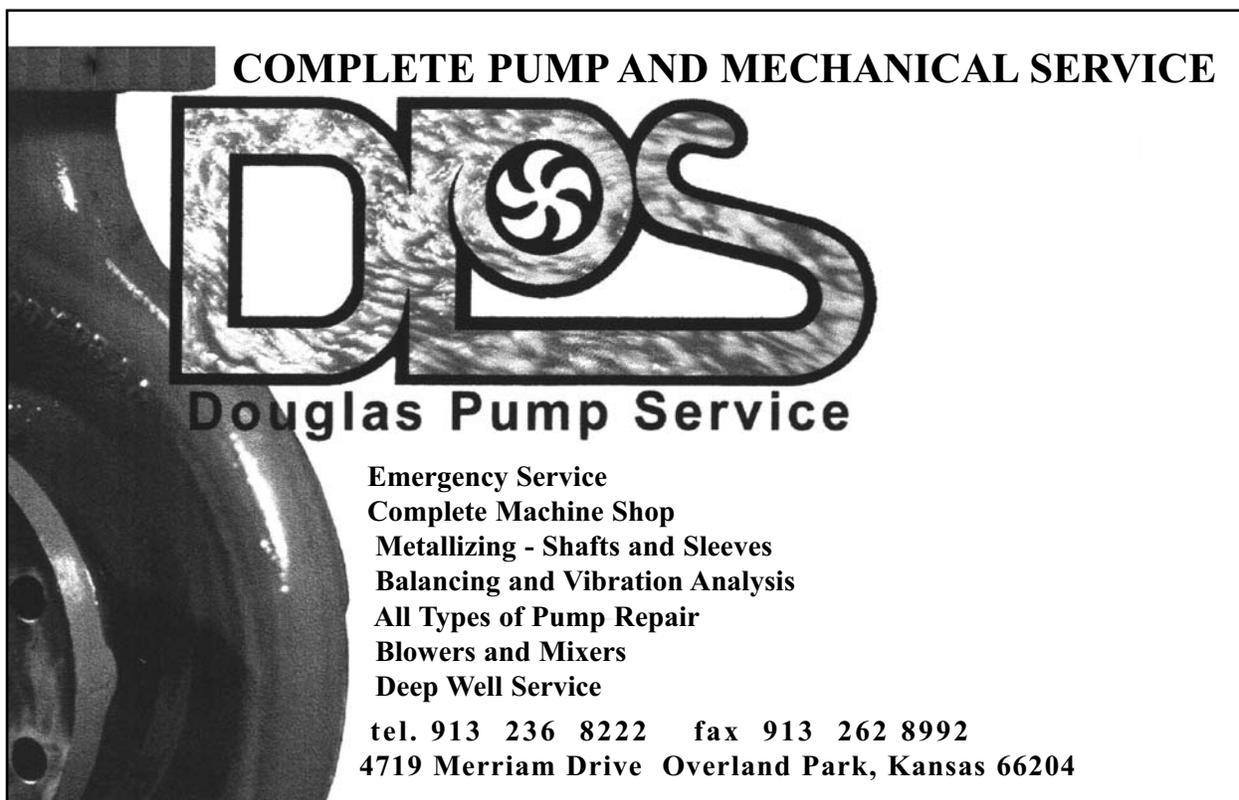
The Stage 2 Rule will include much, much more than the possible additional monitoring for

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levels of THMs and HAAs will continue to increase in the consecutive system as the water travels through the consecutive system's towers and distribution system.

In order to be eligible for these waivers, the consecutive systems must be monitored at least once for THMs and HAAs. KDHE is presently in the process of monitoring and evaluating those consecutive systems that can possibly meet either waiver option

consecutive systems. The Stage 2 Rule will affect almost all water supply systems in some way or another. It is important that each city and rural water district be familiar with the requirements after they become law. This can best be accomplished by attending KRWA training and asking questions of KRWA staff. Also, the KDHE district offices have the latest information and contact with them is quite beneficial.



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