KANSAS
RURAL
WATER
association
Quality water, quality life

P.O. Box 226 • Seneca, KS 66538 • 785/336-3760
FAX 785/336-2751 • http://www.krwa.net

February 10, 2010

Mike Mehegan
Water Plant Superintendent
City of Eureka
P.O. Box 68
Eureka, Kansas 67045

Re: Water Treatment Plant Operations

Dear Mike,

I wish to thank you for the opportunity to visit on February 4 and to discuss treatment plant operations. The main topic of discussion the upcoming report to KDHE on the results of the Stage 2 disinfection byproducts sampling.

The city recently received a letter from KDHE on how to report the Stage 2 sampling results from the city's four sampling dates since March 1, 2009. This letter included a form that is to be completed and returned by July 1. We completed nearly all of the form and you stated that you intend to send the form after you attend the EPA presentation on this matter at the KRWA conference next month. There is no additional Stage 2 sampling required at this time as the city has just completed the standard monitoring for its Initial Distribution System Evaluation (IDSE).

Last April we developed a computer spreadsheet to keep track of chemical costs. This spreadsheet has been used by you to monitor, evaluate, and reduce chemical costs. The costs for the period of May 2009 through January 2010 have been reviewed and the following summarizes some key points.

The coagulants 2078 and 2043 represent 50% of the total chemical costs. The effective use of these two chemicals offers the best opportunity in controlling/reducing chemical costs. As you know, these chemicals will work well at the plant in a range of dosages. So it is important to be sure to use these chemicals at the lower dosages in that range so as to reduce cost.

The monthly costs for these two coagulants ranged from 11.7¢ to 18.2¢ per 1,000 gallons treated. As you know, the dosages will vary with incoming turbidity and water temperature. Continued monitoring and optimization may be able to lower the dosages and costs in the future depending on purchase cost, turbidity, dosages, and plant operation.

During the nine months from April 2009 through January 2010 the total cost for chemicals was $45,007 for treating 145.8 million gallons (MG) for an average cost of 30.9¢ per 1,000 gallons treated. For the comparable nine months from April 2008 through January 2009, the costs totaled $53,958 to treat 161.1 MG, for an average cost of 33.5¢ per thousand. Assuming constant/comparable purchase costs for chemical, this represents an approximate savings of $3,800 in the last nine months.

The 9-month period ending in January 2010 had more rain and thus, possibly, more turbid water to treat and more coagulant needed according to conventional wisdom/experience at many Kansas surface water supplies. However, the very high quality of water and watershed of the city lake may make comparisons with other water suppliers incorrect in the matter of coagulants needed under different operating conditions.

Optimizing chemical dosages is needed to reduce chemical costs or even keep costs within budget when the purchase costs may continue to increase as they have in the past. Some water suppliers have different chemical companies bid on some of the expensive (in terms of ¢ per 1,000 gallons treated) or all of the chemicals used. Be sure to add transportation costs and other add-ons when comparing bids. Also, it is very important to also consider service and response time of any possible chemical supplier; service should always be part of the consideration when comparing bids.

Funding for the above assistance was provided through a contractual arrangement between the Kansas Dept. of Health & Environment (State Revolving Loan Program set-aside) and KRWA. Also, visit the KRWA website www.krwa.net for news and information concerning water and wastewater utilities, training opportunities and other KRWA programs.

Please contact me if you wish to discuss any matters pertaining to the water supply system,

Again, thanks for opportunity to meet with you.

Sincerely,

S. Patrick McCool, P.E.
KRWA Consultant

C: Ian Martell, Administrator
Preston Evenson, Superintendent
Richard Thomas, KDHE