

**Treatment Subcommittee**  
Drinking Water Quality Institute  
January 5, 2009

Attendees: Paul LaPierre, Russell Ford, Laura Cummings, Carol Storms, Barker Hamill, Sandra Krietzman, Branden Johnson

1. B. Hamill opened the meeting by noting that Ravi Patraju is transferring to the new Office of Climate Change, so will no longer be available to assist with treatment issues. The Division of Science, Research and Technology, R. Patraju's former employer, is being downsized to a new Office of Science (OS), a change that is ongoing. The new OS will take over R. Patraju's work on the demonstration projects at Fairlawn and Merchantville-Pennsauken (which are now going out to bid), but the ability of OS to assist on WSO projects may become more difficult due to this downsizing.
2. L. Cummings noted that Dr. Lisa Axe of New Jersey Institute of Technology is seeking community water systems in the area to participate in a National Science Foundation-funded research project on pharmaceuticals in water. A discussion followed on the considerations for such participation, including the disconnect between wastewater treatment personnel's biological focus and drinking water treatment personnel's physical-chemical focus; where in the overall water system (e.g., wastewater versus drinking water) is it cheaper or more effective to treat pharmaceuticals; and the implications for beneficial reuse. C. Storms noted that a new U.S. Geological Survey report on pharmaceuticals in surface water had been published, covering nine drinking water systems nationally, but none in the northeast U.S.
3. Minutes from the last meeting of the Subcommittee, on June 8, 2007, were approved.
4. B. Hamill opened discussion of the Black & Veatch report on technology for removal of 15 contaminants by noting that tertiary butyl alcohol, one of those contaminants, will not be included in the current round of MCL recommendations, because the Health Effects Subcommittee has not had time to evaluate it so far.

The list of contaminants for which Black & Veatch was asked to review treatment technology was limited to those for which the MCL was expected to decline, based on health-based MCLs and practical quantitation limits. Carbon tetrachloride had not been included in the original list because the MCL was not expected to change, but subsequent analysis showed the MCL dropping from 2 to 0.9 ppb. Black & Veatch also did not review 1,2-dichloroethane, whose MCL would drop from 2 to 1 ppb. Discussion confirmed, however, that both these new MCLs could be met with existing technology. C. Storms noted, for example, that Hamilton Well 14 of Aqua New Jersey was currently air stripping both carbon tetrachloride and 1,2-dichloroethane from the well water. USEPA Phase II treatment reports from 1989, which R. Ford had helped prepare, also indicated that both contaminants could be adequately removed from water supplies, with either air stripping or activated carbon.

B. Hamill was dubious that ethylene glycol could be removed from drinking water, and the subcommittee concurred. Because it is a 2a contaminant, there are no occurrence data for New Jersey, but its use in deicing airplane wings limited the likelihood that it would be found in the state to any great degree. B. Hamill mentioned a small upstate New York airport that would have to warn the local utility to shut down its intakes when there was a spill of ethylene glycol, but he knew of few other instances in the region of its occurrence. The subcommittee agreed to recommend a guidance level of 10,000 ppb, rather than a MCL, due to this treatment constraint.

A discussion followed of the efficacy of treatment options for formaldehyde, which were identified by Black & Veatch as identical to those for ethylene glycol (biological degradation and advanced oxidation). R. Ford noted that ozonation with or without hydrogen peroxide will produce formaldehyde; it is unclear whether peroxide will destroy formaldehyde. However, the subcommittee concurred that activated carbon would take care of formaldehyde.

The subcommittee also concurred that all of the contaminants reviewed by Black & Veatch, except for ethylene glycol, could be successfully treated to attain proposed MCLs.

5. The meeting concluded with B. Hamill noting that there was no reason for the Treatment Subcommittee to meet again any time soon, unless it wanted to exercise its prerogative for broad program review to hear NJDEP review the draft rule proposal at the end of March or early April of 2009. The subcommittee postponed a decision on its next meeting.