UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

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OFFICE OF
THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

EPA-SAB-DWC-COM-92-008

Honorable William K. Reilly
Administrator
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Subject: Science Advisory Board Commentary on Alternative Disinfectant and Disinfectant By-Products

Dear Mr. Reilly:

Recent as well as past deliberations of the Science Advisory Board's Drinking Water Committee (DWC) on alternate disinfectant and disinfectant by-products have emphasized the need for research on combined treatments. For example, ozone plus chlorine or ozone plus chloramine by-products need to be more thoroughly investigated to determine their toxicity and their potential consequences to human health. Also, lack of data make the development of a disinfection by-product regulatory analysis model (DBPRAM) a risky endeavor (see our previous comments in: *Drinking Water Committee (DWC) Commentary on the Disinfection By-Product Regulatory Analysis Model (DBPRAM)*, EPA-SAB-DWC-LTR-92-004, April 1992). It is also known that ozone treatment of some surface waters creates a milieu more favorable for microbial growth than that derived from chlorine disinfection. This, at the very least, indicates the possibility of different degradation by-products that are available for reaction with chlorine or chloramines in distribution systems. Considering the magnitude of disinfectant usage and the exposure of millions of people, we believe that research on combined treatments deserves high priority and immediate attention.

At a time when rules for the use of alternate disinfectants are being formulated, it is essential that knowledge of disinfectant by-products is being acquired. Currently, however, there is no focussed research program on these issues that involve the whole treatment train. Such research would include both chemical and biological evaluations of combined treatments

as well as disinfection practices that lead to the formation of bromates and chlorates. The absence of such research and the resulting paucity of data could have a detrimental effect on the credibility of a Federal Program that regulates this country's water treatment industry.

The FY 1993 SAB Budget Review Briefings (see SAB Report: *Review of FY 1993 Research and Development Budget Request*, EPA-SAB-RSAC-92-017) indicated that the FY 1993 President's Budget Request for R&D activities related to disinfectants and disinfectant by-products is reduced from the previous year by approximately a million dollars. Clearly, funding priorities for drinking water research and concomitant public health issues have to be reviewed and given higher priority. It should also be obvious that acquiring knowledge about composition of natural water supplies and the reaction of these supplies with disinfectants can provide important information for the evaluation of environmental conditions and their possible control and/or management. There is considerable concern over the combined and/or interactive impacts of the several new rules governing drinking water quality, e.g., coliform rule, filtration rule, surface water treatment rule and disinfection-disinfection by-product rules. Such important public health programs deserve a level of supportive research that is commensurate with their impacts on community and state programs across the country.

We ask your support for a course of action that would provide adequate resources and include the following components:

1. Establish a credible research program on combined disinfectant by-products as a high priority endeavor.

2. Until this research program is a productive reality, the Agency should develop a process for accepting and analyzing data on by-products from municipal and private water companies or organizations such as The American Water Works Association (AWWA) and the AWWA Research Foundation (AWWARF). This process should include a quality assurance function but not take a posture of "not made here". However, it is recognized that even this kind of research effort will require additional resources for drinking water programs.

Such a strategy would allow for information to be assimilated into a systematic usable data base now, while an agency research program is being funded and initiated. Further, it should engender a significant degree of involvement, participation and cooperation by utilities

in establishing a more scientifically defensible basis for rulemaking, including both engineering and human health components.

The Science Advisory Board and particularly the Drinking Water Committee look forward to your response to these issues that in the aggregate represent a major component of the activities of the Environmental Protection Agency.

Sincerely,

Dr. Raymond C. Loehr, Chair
Science Advisory Board

Dr. Verne A. Ray, Chair
Drinking Water Committee

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