American Water Works Association

The Authoritative Resource on Safe Water SM

Government Affairs Office
1300 Eye Street NW
Suite 701W
Washington, DC 20005
T 202.628.8303
F 202.628.2846
www.awwa.org

Headquarters Office
6666 W. Quincy Avenue
Denver CO 80235
T 303.794.7711
F 303.347.0804

June 1, 2009

Mr. Thomas Miller
US Environmental Protection Agency Science Advisory Board
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001

Re: Comments to the Science Advisory Board Committee on Science Integration for Decision Making

Dear Mr. Miller:

The American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society dedicated to the improvement of drinking water quality and supply. Founded in 1881, the Association is the largest organization of water supply professionals in the world. Our 60,000-plus members represent the full spectrum of the drinking water community: treatment plant operators and managers, environmental advocates, scientists, academicians, and others who hold a genuine interest in water supply and public health. Our membership includes more than 4,600 utilities that supply roughly 80 percent of the nation's drinking water.

AWWA and its member utilities are dedicated to providing safe drinking water to the American public, and the drinking water community recognizes the importance of setting health-based standards that are balanced against the need to keep drinking water affordable. How science is used in the decision making process for drinking water regulations is critical for the Environmental Protection Agency's (EPA) Office of Groundwater and Drinking Water (OGWDW), for drinking water utilities, and ultimately for the consumers. AWWA commends the Science Advisory Board (SAB) for forming this committee to provide recommendations to EPA on improving the integration of scientific assessments into regulatory decision making.

For many years, AWWA has been carefully reviewing Economic Analyses (EAs) that are critical in developing numerical standards issued by EPA under the Safe Drinking Water Act (SDWA). We have extensively described many significant scientific, technical, and cost-benefit issues in our lengthy comments on EPA's proposals for radon, radionuclides, arsenic, the groundwater rule, and the multiple rules known as the Microbial/Disinfection By-Product (M/DBP) Cluster. These issues include the underlying risk assessment, the occurrence profiles, and the Technology & Cost (T&C) documents that are ultimately combined into an EA for each drinking water regulation.

In the course of our review of EPA's EAs over the past several years, AWWA has consistently commented on several shortcomings, concerns, and other issues that are summarized below:

- Lack of transparency, replicability, and consistency. In several instances, it is difficult or impossible to follow or replicate the Agency's analyses. Key citations are not always made available (or refer back to other documents until the trail ends short of the key facts). Results from intermediate steps are not always provided, so it is impossible to "put the pieces together" to determine the source of numerical discrepancies. The General Accounting Office (GAO) faced similar difficulties in its 2002 review of the radon regulation (GAO, 2002). This means that in certain instances the public must accept the EPA estimates on faith. This is at odds with sound practice, and also does not conform to the SDWA requirement for public information [Section 1412(b)(3)(B)].

  The Obama Administration is committed to creating an unprecedented level of transparency and openness in the federal government as detailed in the January 26th *Federal Register* (74 FR 4685). President Obama wants the government to be transparent, participatory, and collaborative, and this is not always been the case in the development of past drinking water regulations.

  There also has sometimes been a lack of consistency among studies in terms of data, methods, or assumptions applied. Inconsistency would not be a problem if the changes over time reflected a steady evolution toward improved methods and data. Regrettably, this is not the case for the EAs coming out of EPA's Office of Groundwater and Drinking Water (OGWDW).

- Reliance on overly conservative assumptions and default values when estimating risks and benefits. In the face of uncertainty, risk assessors traditionally apply the precautionary assumptions in determining what exposure levels are "safe." This is done through use of uncertainty factors, reliance on upper confidence limits and a linear dose-response model for carcinogens, and the application of other practices that are intentionally designed to avoid understating risk. The use of such precautionary assumptions is perhaps suitable in defining a risk-free goal such as a Maximum Contaminant Level Goal (MCLG). For setting risk-cost balancing enforceable standards and other risk management purposes, however, it is inappropriate for risk estimated and associated benefit-cost assessments to include such conservative policy judgments.

  For its EAs, EPA should provide unbiased, central tendency estimates of risk that are in turn suitable for risk *management* in standard setting. Otherwise, the risk assessments will lead to a considerable overstatement of benefits. The degree to which benefits (if any at all) are overestimated will vary considerably from contaminant to contaminant, depending on many factors. The General Accounting Office (GAO) nicely summarized these issues surrounding regulatory and other policy decisions that are not always based on the best (most accurate) science information available (i.e., the most likely or central tendency estimates of risks and benefits) (GAO, 2000).

Additionally, benefits analyses need to reflect "best estimates" (or suitable probability distributions) for key exposure, dose-response, latency period, and benefits valuation issues. This is not only sound economics and policy analysis, but it also is required under the SDWA [Section 1412 (b) (3) (B)]. AWWA and other drinking water associations have repeatedly made such recommendations in comments on EPA's recent drinking water proposals. Unfortunately, EPA appears to be hesitant to incorporate these recommendations in its EAs for drinking water regulations.

- Reliance on national *incremental* comparisons of benefits to costs. EPA has started to show national incremental costs and benefits in its EAs, along with the traditional comparison of total benefits to total costs in evaluating MCL options. This is a significant step forward in meeting the requirements of SDWA Section 1412 by comparing incremental benefits to incremental costs and maximizing net social benefits. A comparison of total benefits and costs for all drinking water regulations by each individual system size is needed, as opposed to incremental benefits and costs that indicate only whether or not a single rule is a break-even proposition. This is an insufficient basis for choosing how stringently to set the standard.

  EPA has improved its portrayal of the incremental costs and benefits for each of its community water system size categories. Small systems in particular feel the increasing impacts of compounding regulations such as the disinfection by-products (DBP) rules, the arsenic rule, and the groundwater rule.

- Reluctance to use "state of the art" measures of risk reduction benefits, such as "Life Years Saved" (LYS) or other alternative measures. Reduced risks of premature fatalities need to be viewed in the context of the amount of increased longevity (years of life extension) provided by a regulation. This provides a more meaningful way to interpret regulations, some of which may reduce premature fatalities early in life, and others that are aimed more at risks faced late in life. EPA's OGWDW has steadfastly adhered to the more generic, less informative "lives saved" approach, even though other EPA offices (e.g., for Clean Air Act analysis) and other federal agencies (e.g., FDA) have published more informative EAs using the LYS approach.

  EPA claims it has not used LYS in drinking water regulations because the Science Advisory Board (SAB) once raised some concerns with valuing LYS on the basis of adjusting estimates of the Value of a Statistical Life (VSL). Nonetheless, even if there are concerns about developing a monetary estimate of the value of a statistical life year (VSLY), this is no basis for refusing to at least quantify the degree of life extension provided by regulatory options developed under the SDWA regulatory program.

- Lack of more systematic approaches for considering unquantified benefits and costs within standard setting. In some instances, important benefits or costs may not be readily quantified or portrayed in dollar value terms. In these instances, the unquantified or omitted benefits and costs need to be suitably considered in the regulatory decision-making process -- they should neither be ignored nor given undue weight. Again, EPA's SAB recommended that EPA take a harder look at unquantified benefits in its review of the benefits of the arsenic

rule (August 2001). EPA's EAs for drinking water standards have sometimes failed to use available information on unquantified outcomes in an informative manner, despite examples being provided to the Agency by AWWA and others.

If you have any questions about these comments, please feel free to call Alan Roberson or me in our Washington Office at 202-628-8303.

Yours Sincerely,

Thomas W. Curtis
Deputy Executive Director

cc: Cynthia Dougherty—USEPA OGWDW
Pam Barr—USEPA OGWDW