

ORAL COMMENTS

to

Science Advisory Board Environmental Economics Advisory
Committee

on

Ex Ante Regulatory Cost Estimates - Exploratory Analysis

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prepared by the

American Water Works Association

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 54,000-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 4,000 utilities that supply roughly 80 percent of the nation's drinking water. Protecting public health is an essential goal of the drinking water profession and the mission of each public water system.

AWWA appreciates the current panel's focus on accurate cost estimates to support benefit-cost analysis. While there are opportunities to improve the cost estimates for national drinking water regulations, the magnitude of uncertainty in the benefits estimates is an even larger source of concern in EPA's benefit-cost analyses. To date, the agency's efforts have led to improved transparency in presenting potential benefits, and this is an important first step. Developing a benefit-cost analytical process that effectively supports risk management decisions is critical – the current process is primarily matching a gross risk characterization process with a relatively elaborate costing analysis.

Secondly, the charge questions are primarily framed around contrasting the range of national ex ante and ex post estimates. Under the Safe Drinking Water Act (SDWA), one of the goals of the benefit-cost analysis is to understand the incremental changes in cost as a function of different regulatory alternatives. When done appropriately, the benefit-cost analysis will express net benefits in a meaningful way at the scale of individual communities (e.g., at a cross-section of different system sizes). In order to effectively guide public health policy decisions, this analysis should also accurately reflect the ability of local communities to pay for the costs to be incurred. Current practice is to lump benefit-cost into a national assessment where benefits may be accrued nationally, but individual communities with limited ability to pay are challenged with large incremental cost burdens that have limited marginal rates of public health benefit.

AWWA would like to offer several comments to assist the Environmental Economics Advisory Committee (EEAC) in responding to its charge questions with respect to the costs of the Arsenic Rule:

1. Did report adequately summarize the existing literature? No, the report itself describes in detail gaps in its treatment of the available literature.
2. Have we accurately described why ex ante and ex post estimates might differ? No, key considerations inadequately addressed are the cost of treatment residuals management; state and local regulatory constraints on treatment alternatives; and the geographic location of sources of supply, alternative supplies, and existing treatment facilities. There also appears to be a cost basis difference, between the ex-ante cost estimates and total capital costs for ex post costs in which indirect costs (design, permitting, administrative costs, etc.) are not captured.

3. What are the comparative merits of methodologies used to obtain ex-post information on key drivers so as to inform future rulemaking analyses? The authors concluded that with respect to the Arsenic Rule they were virtually unable to collect any of the information critical to understanding the key cost drivers they identified for ex-post analysis. The report suggests that the authors were seeking readily accessible datasets organized to support ex post analysis, when as a practical matter data is managed around project financing and implementation. As an example, the report notes that three large cities (Houston, Phoenix, and Los Angeles) made up 25% of the anticipated total cost of the Arsenic Rule; a detailed ex post cost analysis of these three water systems would both provide a check on the initial estimate and provide insight into the implementation challenges faced by other systems.

The authors did not collect data to analyze the key drivers AWWA identified.

4. How can the agency best fill the information gaps that plague the ex-post analysis? The docket for the Arsenic Rule provided extensive information on residual management costs as well as the impacts of at least some state and local constraints. Use of these data in the rulemaking process and the ex-post analysis is one opportunity. The state revolving loan fund program could be used much more effectively to understand imposed cost vs community-level ability to pay. Information could be obtained from the SRF loan approval process for loans issued over the past several years across many states. This could provide a basis to develop and understanding of actual costs incurred and perhaps also informs our understanding of major drivers of cost in a way that is comparable across systems.

Individual states have extensive permit processes for approval of new treatment installation, well construction, etc.; these data can be used retrospectively to target data collection from water systems. New treatment cost and residual management information is continually being developed at the state and local levels. One example for the Arsenic Rule is through the University of California-Davis with funding provided by the State of California. A point-of-contact for the UC-Davis work is Dr. Jeannie Darby, (530) 754-9471 or jdarby@ucdavis.edu.

It is also important that ex post analysis involve experts with an understanding of the relevant risk management strategies and technologies. For example, the current report relies heavily on the arsenic demonstration projects but many of these projects were temporary facilities and did not have permanent components. Some of the participating water systems abandoned the originally selected process because of low bed life, inability to handle residuals (residuals management was not an aspect of the demonstration projects), and operational challenges. These limitations would be readily recognized and addressed by engaging experts with day-to-day experience in the field.

5. How can the agency best disentangle costs that are not directly associated with the rulemaking? Sound water quality and water resource management, available financial tools, and political necessity lead to the entanglement of costs. In many instances, there are derivative costs that are secondary and tertiary consequences of the rulemaking and in other cases completely separate goals are addressed through the same project. The only sound analytical strategies available are (1) to discard cases where there are clearly unrelated

factors driving costs and (2) obtaining detailed information from the water system and conducting an expert analysis segregating costs.

While dissecting costs to understand the impact of individual regulations is important. When conducting this type of analysis it is important to realize that water systems manage risk (e.g., by installing/optimizing treatment) to achieve multiple regulatory goals. Using cumulative benefits/costs at national and individual system levels can better illustrate if/when a "meaningful opportunity" for risk reduction exists.

6. Drawing defensible “weight of evidence” conclusions on compliance costs? Rather than using the ex-post analysis to both posit and conclude that a driver is important and describe to what degree it is significant, the agency could utilize the expert community to identify which drivers to evaluate through (1) submitted comments on the initial rulemaking and (2) Delphi-based expert process after the rule has been implemented (e.g., Delphi process used in developing the Stage 1 Disinfection Byproduct Rule among others). The ex-post analysis then becomes a more targeted sensitivity analysis on factors for which there is already a basis for considering pursuing improvements.
7. How can ex post cost comparisons be used to inform how the Agency estimates costs ex ante for future rules? Two ways EPA can use ex post comparisons with ex ante estimates are: (1) evaluate whether the EPA costing methodology is sufficiently responsive to critical cost drivers and (2) determine if the EPA costing methodology accurately portrays the range of community level costs in a way that informs risk management decisions and affordability considerations.

8. Is it possible to make general statements as to the accuracy of ex ante cost estimates? Cost models that EPA uses for ex ante benefit-cost analyses of drinking water regulations usually have a stated accuracy (e.g., ± 30 percent), which could be used as a metric to compare actual ex post costs with ex ante estimated costs. There are a sufficient number of reported examples of actual installed treatment costs being greater by more than 100% to consider the stated accuracy of the agency cost estimates to be suspect. Since only limited data will likely be available, examination of outliers may provide insights into drivers that may have been under or over estimated in the ex ante cost analyses.

9. Is there a way to credibly identify rules that would lead to informative ex-post cost studies from which we can draw conclusions? SDWA regulations typically have a robust docket after rules are proposed, at which point there is an opportunity to evaluate key cost drivers identified by knowledgeable stakeholders.

AWWA strongly supports the National Center for Environmental Economics and EEAC's goal for this review that is learning from past experience to prepare more accurate benefit-cost analyses in future EPA rulemakings. EEAC recommendations to EPA are important as the need for improved analyses is a pressing concern; at present there are eight Safe Drinking Water Act regulations under active development. Individually and cumulatively EPA's regulations affect how communities and households spend scarce resources. Consequently, any solution needs to be one that is workable and addresses genuine problems in meaningful ways.

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