

Senate Committee on Environment and Public Works
Perchlorate and TCE in Water
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EPA has a well established process for setting drinking water contaminant levels that has been evolving for 30 years, producing one of the safest drinking water supplies in the world. The SDWA and its amendments reflect the best of Congress' ability to craft statutes that are effective and sensible. The Act requires EPA to set priorities and provides flexible direction to consider risks, costs, benefits, feasibility, population subgroups, life stages, and public values in standard-setting.

Setting drinking water standards—or any other limit on human exposure to chemical contaminants—requires balancing the need to be precautionary and protect public health with the need to develop an adequate factual basis to justify regulation. In other words, EPA must act to prevent health risks from drinking water contaminants but must also determine that regulating contaminants would present a meaningful opportunity to reduce health risk. There are costs associated both with regulating too soon when health risks turn out to be negligible and with regulating too late, after health risks have occurred. Finding the right balance is what the SDWA empowers EPA to do.

There are many examples of the challenging process involved in trying to set exposure limits for substances in a world of evolving science. Perchlorate is a perfect example. Until recently, EPA's continued efforts to characterize the hazards of perchlorate have been repeatedly thwarted by peer review panels. Perchlorate first made it onto EPA's radar screen in 1985 when it was found to be a contaminant at Superfund sites in California. Toxicity data were sparse and a provisional reference dose was adopted by EPA in 1992. That provisional reference dose was replaced by a different provisional reference dose in 1995. Peer review of that provisional reference dose concluded in 1997 that it was not adequately supported by data and proposed a toxicity-testing strategy. EPA listed it as an unregulated drinking water contaminant of potential concern in 1998 and released a draft risk assessment with yet another provisional reference dose. Another peer review recommended waiting for the results of the studies that had been recommended in 1997. A revised draft risk assessment was released in 2002 that incorporated the new data and proposed a fourth provisional reference dose. Peer review of that assessment by the National Academy of Sciences resulted in a fifth reference dose, which EPA adopted in 2005. Of course, reference doses are advisory, not regulatory, and perchlorate as a drinking water contaminant remains unregulated by EPA.

Meanwhile, what about the costs of regulating versus not regulating perchlorate? The Safe Drinking Water Act requires EPA to establish contaminant levels at which “no known or

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anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety”. So let’s ask the question, “Are known or anticipated adverse effects on health occurring due to perchlorate exposure and, if not, is there an adequate margin of safety?” One approach to answering that question is to compare EPA’s reference dose to the levels we’re actually exposed to. The reference dose is the perchlorate exposure level anticipated to be without adverse effects. Based on data from the Centers for Disease Control, we know that the average exposure to perchlorate in the US is about one-tenth the reference dose and the highest exposures are about one-third the reference dose. Based on CDC and FDA data, our exposure is 10,000 times less than what the National Academy of Sciences concluded would be required to produce adverse effects in healthy adults.

So the good news is that the American public is apparently not being exposed to perchlorate at levels that are likely to pose a risk our health. Does that mean we shouldn’t regulate perchlorate? Not necessarily. Perchlorate occurs naturally in the environment but it is also a widespread anthropogenic contaminant and probably should be regulated. Fortunately, however, there is no imminent public health threat that justifies regulating in advance of the science. And, of course, just because there is no drinking water standard at present doesn’t mean that precautionary risk management measures shouldn’t be taken to prevent further contamination. But I think it does illustrate how legislation compelling EPA to regulate perchlorate would freeze a standard in place in reaction to politics, not risk-based priorities, and essentially constitutes an environmental earmark.

Former EPA Administrator Bill Reilly referred to this phenomenon as regulating based on “moments of episodic panic” in reaction to news stories, not science. EPA’s landmark 1987 report *Unfinished Business* concluded that its priorities were influenced too much by public opinion and emphasized the desirability of setting agency priorities based on risk where possible. I believe in setting priorities based on science and directing resources where they will have a demonstrable impact on public health, and not in environmental earmarks—or symbolic acts—that misdirect limited resources without public health benefit. Thank you.