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Subject
EPA Science Advisory Board review of a draft SAB report on Nov. 27, 2006.

Thank you for reviewing and considering our comments.

The National Rural Water Association (NRWA) represents over 25,000 rural and small community members with public drinking water supplies. Our mission is to improve, protect, and enhance the safety of drinking water supplies across the country. We work, on-site, with most of the community water supplies in the country each year. The arsenic rule is estimated to require over 3,000 communities to reduce arsenic concentrations. Most all of these communities are small, less than 3,300 in population, many with very limited economies of scale and ability to afford compliance. In many cases the EPA rule could more than double water rates in many small communities. According to consumer advocates and locally elected officials, such precipitous rate increases often threaten consumers' ability to pay for water service and other public health necessities. In some cases the community in violation will be no more than one or two, parts per billion above the current EPA maximum contaminant level.

This is why the underlying science of the EPA rule is very important to our membership. No one from the EPA or the Science Advisory Board has provided us with a clear explanation of the safety or risk of the current 10 parts per billion standard. For example, EPA did not find that arsenic concentrations above their standard necessarily present an "unreasonable risk to health." [USEPA, Exemptions & the Arsenic Rule, March 2002, p. 11, #7] Instead of identifying the levels of arsenic that are "protective of public" [42USC300g-1(b)(15)(B)] or don't present "an unreasonable risk to health" [42USC300g-5(a)(3)] as named in the Safe Drinking Water Act, EPA chose to identify what these levels are not. "EPA is... determining what does not pose an unreasonable risk to health with respect to arsenic, rather than address the much more complex issue of what does constitute an unreasonable risk to health." USEPA, Exemptions & the Arsenic Rule, March 2002, p. 11, #7].

Our specific questions for the SAB include:

1. We would appreciate if the SAB panel leading the analysis of health effects from arsenic in drinking water supplies could clearly state for the public that arsenic levels above EPA's standard are "not safe," and levels below EPA's standard are "safe." If this cannot be clearly stated we would be grateful for an explanation.
2. We have not found a critique of the following studies in the draft report, which have been peer-reviewed and published. One study was published recently in the National Institutes of Environmental Health Sciences in 2005 and won the paper of the year award from Human and Ecological Risk

Assessment [Lamm 2005 (HERA) Arsenic Ingestion and Bladder Cancer Mortality - Dose-Response on Mechanism]. Another peer-review published study that seems to be cited in the draft report, however, is not critiqued is Lamm 2006, Arsenic Cancer Risk Confounder in SW Taiwan Data set [EHP July]. We have been told that these two studies provide further science understanding and analysis from the previous EPA arsenic science reviews on two of the most critical issues in the analysis; low level arsenic concentrations' health effects on U.S. populations, and epidemiological evidence of threshold level for arsenic health effects in drinking water. Also, it appears the EHP accepted study finds that the core risk analysis that EPA has relied on to determine the current drinking water standard (SW Taiwan studies) have been reanalyzed and to show the data was misinterpreted in the earlier studies.

According to the authors, "we have continually stated our concern that all the SW Taiwan analyses assume that the median village well arsenic level is the only determinant (i.e., explanatory variable) of cancer risk in the study population (with some adjustment for dietary exposure). We have tested two inherent assumptions within the data and found that the EPA assumption was unsupportable. Our 2006 EHP paper recognizes that the SW Taiwan dataset has been pooled from six townships and examines whether the arsenic-cancer dose-response relationship is similar across the townships. It finds that it is not. Three townships show a significant cancer risk that is independent of arsenic exposure, and three townships each show a similar significant arsenic-cancer dose-response that is highly dependent on arsenic level. Further, this dependency does not fit a model through the origin but does fit a non-linear model with increased cancer risk at 150 ppb arsenic and greater."

These studies (and others that concur with their findings) have all been published and peer-reviewed in some of the leading scientific journals - and they are more recent than the studies relied on by EPA for the current drinking water rule. Our association is not in a position to weigh the legitimacy of competing studies. However, these studies and their findings seem to meet ALL legal standards under the Safe Drinking Water Act for considering for what type of science EPA is to rely on in making regulatory decisions.

"Use of science in decisionmaking. In carrying out this section, and, to the degree that an Agency action is based on science, the Administrator shall use- (i) the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices;"

Does the SAB believe that this draft report and the EPA have critiqued and weighed these studies appropriately under the authority for considering science in the SDWA?

Thank you for your comments on these questions.

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