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MEMORANDUM

To: Mike Keegan, John Regnier
National Rural Water Association

Date: April 21, 2008

Re: Response to Rep. Waxman Letter of April 9, 2008 Concerning EPA's Proposed
Affordability Methodology for Drinking Water Regulations

At your request, I have reviewed the letter from Rep. Henry Waxman to Stephen Johnson, the Administrator of EPA, dated April 9, 2008. As you know, the letter concerns the regulation EPA proposed in March 2006 to change its methodology for determining whether a drinking water regulation is affordable to small water systems.

I addressed many of the issues raised in the letter in the paper I prepared for you in April 2006 ("Review of U.S. Environmental Protection Agency Notice Concerning Revision of National-Level Affordability Methodology"), a copy of which is attached for your reference.

Initially, Rep. Waxman's letter begins with a fundamental misconception. The second paragraph of the letter states "public water systems of every size protect the public from waterborne illness and toxic chemicals by providing drinking water that meets rigorous regulatory standards. For public water systems serving small communities, the Safe Drinking Water Act requires EPA to identify technologies that are both affordable and help small systems comply with drinking water standards."

This juxtaposition of "waterborne illness" and the discussion of small system affordability is a very misleading one. The SDWA does not permit affordability variances for microbial contaminants. Section 1415 of the Act is explicit on this point:

INELIGIBILITY FOR VARIANCES.—A variance shall not be available under this subsection for—

(A) any maximum contaminant level or treatment technique for a contaminant with respect to which a national primary drinking water regulation was promulgated prior to January 1, 1986; or

(B) a national primary drinking water regulation for a microbial contaminant (including a bacterium, virus, or other organism) or an indicator or treatment technique for a microbial contaminant.

SDWA § 1415(e)(6)(B), 42 USC § 300g-4(e)(6)(B) (emphasis added).

At the outset, then, it must be recognized that EPA's proposal has absolutely nothing to do with microbial contamination or waterborne disease. Affordability-based variances for small systems are available only for chemical contaminants that may pose a risk of long-term health effects.

Variances are not available for microbial contaminants where short-term exposure can lead to waterborne disease.

This distinction is extremely important. The affordability variances contemplated in the Act do not affect the traveling public. They do not and cannot turn small water systems into areas where you are warned “don’t drink the water” because of the risk of illness. Even if EPA authorized small system variances to every drinking water standard it could under the law (a circumstance that is neither likely nor necessary), the water in every small community would be safe to drink for the traveling public and would pose no risk of waterborne illness.

Rather, affordability-based variances are designed to address the impacts of long-term exposure to chemical contamination that shows a statistical correlation to an adverse health effect with long-term exposure. For example, a contaminant might show a statistical likelihood of increasing the risk of a certain type of cancer by one case for each 10,000 people, assuming constant exposure over a 20-year period.

The SDWA is designed to reduce the level of such contaminants in large communities, serving tens or hundreds of thousands of people. At least according to the statisticians, such communities would experience a measurable reduction in the incidence of the particular cancer. Further, the cost of obtaining that reduction in cancer risk is typically quite small – usually no more than a few dollars per year for each household. That type of tradeoff – a measurable reduction in cancer cases in the community for an expenditure of a few dollars per household – is a reasonable one.

But the SDWA also recognizes that this tradeoff equation changes dramatically in small communities. What does a one in 10,000 reduction in cancer cases mean when there are only 100 people in the community? Statistically, it means there is no benefit. The avoidance of the cancer case becomes so remote that it occurs beyond the average life expectancy of the population exposed to the contaminant. Moreover, when this extremely remote risk is coupled with the cost – which often is in the hundreds of dollars per year per household, because of the lack of cost-effective technologies for small water systems – the inherent tradeoff (a measurable health benefit in the community for a low cost per household) is not present. Would any rational community voluntarily spend \$200 per household each year to avoid one cancer case over the next 100 years?

This is what the SDWA means when it talks about avoiding an “unreasonable risk to health.” It does not require setting another standard. It means that EPA should evaluate the real-world impact on affected communities. It means that just because a standard makes statistical sense for a large community with a low per-household compliance cost, it does not necessarily mean that the same relationship will exist in smaller communities. If adopting a different technology could reduce the cancer risk in a small community to, say, one in 8,000 instead of one in 10,000 but for the same cost per household as the large community, such a result would not pose an unreasonable risk to health (avoiding one cancer case in the town of 100 people every 80 years instead of every 100 years).

This does not mean that there are two standards, or that there is substandard water in the small community. It means simply that the relative costs and health benefits are kept in balance between large and small communities.

It also needs to be understood what an “unreasonable risk to health” could be. For example, if a chemical contaminant is shown to have a serious health impact from short-term exposure, then an affordability-based variance might not be appropriate. For instance, if exposure to water over a short period of time shows a significant correlation with increased birth defects or miscarriages, then it might be unreasonable to allow a variance. Such a variance could place both the resident population and the traveling public at risk.

The authors of the SDWA amendments in 1996 were well aware of this problem. As I discussed in my 2006 paper, key lawmakers from both parties explicitly recognized this problem and explained the policy decision that was reached. Congress made three important decisions in the 1996 Act:

- (1) It was important to maintain the balance between cost and the reduction of health impacts from long-term exposure to drinking water in both large and small communities.
- (2) All drinking water would meet the same requirements for avoiding waterborne disease – there would be no variances from the microbial limits.
- (3) No variances would be granted if there would be an unreasonable risk to public health.

In essence, Congress found that blind compliance with a national standard for long-term chemical exposures was not the goal. Rather, the goal was to achieve meaningful health protection at a price people could afford. What is meaningful or measurable in a community of 1 million people is very different than it is in a community of 100 people. So, the goal of the Act is to try to keep the cost about the same, as long as you can do so without causing a health problem.

Rep. Waxman’s letter criticizes EPA’s proposal as creating a “two-tiered system” of drinking water standards that is “unjustifiable from a public health and ethical standpoint.” (Letter page 2; see also page 5) This statement not only misses the point, but it is directly contrary to the explicit language and intent of the 1996 SDWA amendments.

Congress decided that the important ethical consideration was to keep the costs and long-term health benefits in balance. If a large community can avoid one cancer case every year for a few dollars per household, why should a small community be asked to spend hundreds of dollars per household to avoid one cancer case every 100 years? That is the unethical, disparate treatment the SDWA is designed to avoid: forcing small communities to pay substantially more to achieve the same (or lesser) benefit as large communities.

In theory, there are two ways to address this disparity. One way is to provide government grants to small communities, so their cost per household for compliance is the same as large communities. Even though the health benefits would not be identical, there would be no harm to consumers. The second approach would be to change the compliance requirements so that the costs remain in balance with a level of benefits that is meaningful to a small community.

The SDWA adopts an appropriate balance between these two approaches – a balance which would finally be recognized under EPA’s proposed rule. The SDWA directs EPA to authorize affordability-based variances if there is a significant imbalance in the costs and benefits between small systems and large systems. But that does not mean that every small system would automatically be relieved from compliance with the large-system standard.

Instead, any small system that wanted to pursue a variance would need to show that it actually cannot afford to comply, after considering the availability of government grants and low-interest loans and the feasibility of working with neighboring communities (including the feasibility of merging their water systems). In this way, Congress recognized that targeted funding and structural change in the provision of water service might alleviate the need for variances. But in the absence of outside funding, and in areas where there are no neighboring water systems, small systems should not be burdened with costs per household that bear no rational relationship to the anticipated health benefits of a regulation.

The NDWAC report cited by Rep. Waxman recognizes this same concern, but suggests a different approach than Congress adopted. NDWAC suggested that affordability-based variances should be used only “after all other alternatives presented in this report are given due consideration.” Those other recommendations include small system consolidation, targeted funding for small water systems, and a Low Income Water Assistance Program (LIWAP) to provide direct funding to low-income water customers (similar to the Low Income Home Energy Assistance Program, LIHEAP). (Letter page 3)

While NDWAC’s proposal is interesting and worthy of consideration by Congress, it is not the law and has no effect on how EPA must administer the law. In the 1996 amendments to the SDWA, Congress reached conclusions remarkably similar to NDWAC’s, but the law structures the process differently than NDWAC suggests. The SDWA requires EPA to determine when there could be an affordability concern (as mentioned above, when the costs and benefits are out of balance in small systems) and authorize the use of variances for that regulation. Once that is done, then the standards that NDWAC suggests take effect – a small system cannot actually obtain a variance unless it can demonstrate its inability to affordably comply with the regulation through (1) water treatment, (2) “alternative source of water supply,” or (3) “restructuring or consolidation” with other water systems. SDWA § 1415(e)(3), 42 USC § 300g-4(e)(3).

The only element NDWAC suggests that is not embodied in the statutory scheme is the creation of a new grant program for low-income water customers. Otherwise, what NDWAC suggests is already part of the law – a law that requires EPA to make an affordability determination when the balance between costs and benefits is radically different in small communities than it is in large communities.

Finally, on pages 3 and 4 of his letter, Rep. Waxman again mischaracterizes EPA’s proposed rule. He suggests that EPA is proposing to lower the affordability threshold from 2.5% of median household income (MHI) to 0.25% of MHI. Thus, Rep. Waxman suggests that this “is a significant decrease from the 2.5% threshold under current law.” (Letter page 4).

This statement is truly “mixing apples and oranges.” EPA’s existing affordability threshold of 2.5% of MHI is based on the total cost of drinking water service to a household. EPA’s proposed new threshold is based on the cost of compliance with the particular regulation under review. Thus, if EPA had five regulations that affected a small water utility, customers of the utility could be required to spend up to 0.25% of MHI on each regulation. In addition, of course, the utility must meet its other costs for operations, maintenance, capital investment, and so on.

EPA's proposed new affordability threshold makes sense for a number of reasons (as I explained in 2006), not the least of which is that it sets a specific threshold for the cost impact of any one regulation. If MHI is \$40,000 per year, then the affordable cost of any one regulation would be \$100 per customer per year in small communities. If the cost of full compliance exceeds that amount, then EPA would designate an affordable variance technology that has a cost of less than \$100 per customer per year in small communities. This would be a more reasonable, albeit still expensive, upper limit on the cost of complying with any one regulation.

In summary, I do not believe that Rep. Waxman's letter accurately reflects the impact of EPA's proposed rule. I also do not believe that he has accurately characterized the policy decisions embodied in the SDWA amendments of 1996. The law requires there to be a reasonable relationship between household-level compliance costs and the health benefits to be achieved from drinking water regulations. When the level of costs is substantially different in small communities than it is in large communities, the law requires EPA to authorize variances for small systems that do not have cost-effective compliance options. The equity to be achieved under the law is to ensure that drinking water is not dramatically more expensive in small communities than it is in large communities, while still protecting public health. EPA's proposed rule would help to achieve that goal.

If you have any questions or would like to discuss this further, please do not hesitate to contact me.