Treatment Technology Stakeholder Meeting

EXECUTIVE SUMMARY

May 18-19, 1998
Washington, DC

Background

The Environmental Protection Agency held a stakeholder meeting on May 18 - May 19, 1998 in Washington, DC. The goal of the meeting was to obtain feedback on identifying technologies for the compliance and variance technology lists due on August 6, 1998. These lists are required by the Safe Drinking Water Act (SDWA) Amendments of 1996. Representatives from states, water systems, and equipment manufacturing companies were among the key stakeholders present.

The objective of the meeting was to receive input on the following issues: 1) Process for determining which existing regulated contaminants may be eligible for variance technologies; 2) Options for national-level affordability criteria; 3) Update to the August 1997 Compliance Technology List for the Surface Water Treatment Rule; 4) Candidate technologies for the compliance technology lists for the other regulated contaminants; and 5) Point-of-Use and Point-of-Entry devices as compliance options. The first two issues were covered on the first day and the last three were covered on the second day.

Summary

Day One -- Variance Technology Eligibility Process

The first major topic was the process for determining which existing regulated contaminants may be eligible for variance technologies. Screening criteria were applied to the 80 regulated contaminants and only 5 contaminants emerged as candidates for variance technologies. The screening criteria are as follows: Section 1415(e)(6)(B) of the SDWA; Section 1415(e)(6)(A) of the SDWA; drinking water regulations that are not technology-based; unreasonable risk to health (URTH); an initial affordability screen; no MCL for small systems; and contaminant occurrence. URTH was used as a screen for the "protective of public health" requirement associated with variance technologies. URTH is based on a short-term exposure of 7 years whereas the small system variance can last the expected useful life of the variance technology. The following two presentations discussed the procedure for determining URTH values and its relationship with the protective of public health criteria. Affordability was assumed and no variance technologies are needed for those contaminants where there were no violations or projected violations. Stakeholders asked what would happen if a violation did occur for one of these contaminants. It was explained that the compliance and variance technology lists are dynamic lists that can be modified based on new information.

Day One -- National-level Affordability Criteria

The second half of the first day dealt with the national-level affordability criteria that determine whether a given system will proceed along a compliance or variance pathway and which technologies would be available for the system. This session opened with a background presentation on affordability and variance technologies. It was emphasized that the national-level affordability criteria determine how much a system should pay and for what level of protection. Systems installing a variance technology will incur costs and those costs will need to be recovered from the users. Household costs will increase under either the compliance or variance pathway. The baseline of current annual household water bills in each small system size category was the focus of the next presentation. The three critical parameters for the

baseline are: annual household water consumption, median household income, and annual sales revenue per connection. Stakeholders preferred consistency in terms of picking either median or mean values for these three parameters. EPA asked stakeholders if separate baselines should be established within each size category based on source type or ownership type. Source type was viewed as the more important variable in establishing baselines for annual household water bills. The final presentation in this session discussed the range of options for national-level affordability criteria based on comparative household expenditures and a comparison of those expenditures against income. The identified range of 1.5% to 3% of median household income is based on data in the Bureau of Labor Statistics Consumer Expenditure Survey. The floor of 1.5% is equivalent to annual consumer expenditures on alcohol and tobacco. The 3% is based on rounding down the combination of electricity, fuel oil & other, and natural gas. One stakeholder expressed concern with the use of the median household income and stated that the focus should be on disposable income for lower income levels. EPA stated that it would be inconsistent to use the higher mean or median annual household consumption and mean or median annual sales revenue per connections with a lower household income. Water consumption and current annual water bills for households with lower incomes would likely be lower than the median or mean households within each size category. Other stakeholders commented that the affordability criteria should be set at the lower end of the range of median household income (1.5%). EPA stated that one limitation of the approach is that all costs are assumed to be borne by the users. The annual water bill cost increase used for the affordability determination may not represent the typical small system because no financial assistance is assumed. This may support a higher percentage of median household income for the affordability criteria.

Day 2 -- Update to 1997 Compliance Technology List for the SWTR

The major topic in this session was the disinfection alternatives that were listed in the 1997 Compliance Technology List Guidance Manual as being under consideration for the 1998 update. Many of these options involve the use of two oxidants or ultraviolet plus an oxidant. Many stakeholders felt that these options added another level of complexity that may not be necessary to meet the SWTR. Stakeholders did state that systems with organic contaminants might find these options more practical since multiple treatment objectives can be met.

Day 2 -- Treatment Technology Issues Specific to Contaminant Type

This session was organized by arranging the remaining regulated contaminants into groups. This was done because many of the treatment technology issues are general and would apply to the use of the technology for any contaminant in the group. Treatment technology performance issues were discussed for the following groups: inorganics and corrosion by-products, radionuclides, volatile organic contaminants, and pesticides and other synthetic organic contaminants. Stakeholders preferred that EPA list technologies along with performance limitations rather than exclude candidate technologies. EPA stated that it would need to specify removal efficiency ranges where certain technologies could be used. EPA also asked stakeholders about the format for the compliance technology lists for these groups of contaminants. Stakeholders preferred one document with chapters by contaminant type rather than multiple documents.

Day 2 -- Point-of-Use and Point-of-Entry Devices as Compliance Technologies

The 1996 SDWA Amendments state that Point-of-Use (POU) and Point-of-Entry (POE) devices can be used as compliance technologies for small systems. To implement this option, the POE/POU units must be owned, controlled, and maintained by the public water system or a person under contract to the water system. This central management plan is critical to implementing this option. Stakeholders were provided a copy of the draft "Cost Evaluation of Small System Compliance Options: Point-of-Use and Point-of-Entry Treatment Units" prior to the meeting. Costs for centrally-managed POU or POE options were compared with central treatment costs. The breakpoint for POU units was between 70 and 180 households. The breakpoint for POE units is generally below 20 households. The central treatment costs do not include residuals management. Inclusion of those costs would shift the breakpoint to a higher

number of households. Other factors that were identified as affecting costs for POU and POE options were monitoring frequency and replacement frequency. The costs are based on monitoring each house once a year for the contaminant of concern. This is a very conservative approach. Stakeholders believed that representative sampling could be used to reduce monitoring costs. The replacement frequency for component parts is based on the volume of water treated for use. The treated water needs for POU units was assumed to be 1 gallon per person per day for a 3 person household. This is significantly higher than the consumption assumed for deriving maximum contaminant level goals (2 liters/person/day). The treated water needs for POE units was assumed to be 100 gallons/person/day for a 3-person household. This translated into approximately 110,000 gallons/household/year. This is considerably higher than the annual consumption values derived from the 1995 Community Water System Survey (CWSS). Stakeholders were divided over whether to use one gallon or 2 liters per person per day for the POU cost estimation. Stakeholders recommended using the estimates from the CWSS for the POE cost estimation.

Next Steps

The updated Compliance Technology List for the Surface Water Treatment Rule and the Compliance Technology Lists for the Other Regulated Contaminants will be published in the Federal Register in August 1998. A variance technology list for any of the five contaminants that meet the criteria will also be published in August 1998. All three of these lists will be supported by guidance manuals. The Federal Register notice will also summarize the three guidance documents. A document describing the national-level affordability criteria will accompany the variance technology list guidance manual. All three of the lists will be updated yearly. For more information on treatment technologies, contact Jeffrey Kempic at kempic.jeffrey@epamail.epa.gov.