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Defining "Affordable" Water Rates for Low-Income Affordability Programs

NOTE TO READERS

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Affordable Water Burdens Can be Defined by Reference to Water Quality Work

One issue that faces a local government seeking to establish a water affordability program is how to define what level of water bills is "affordable." According to the National Drinking Water Advisory Council's Small Systems Working Group:¹

Ability-to-pay focuses not on whether consumers *will* pay for water service, but on whether consumers *can* pay for water service. . .As a general proposition, households with higher incomes can consume proportionately more quantities of goods and services; this relationship generally holds for water consumption.

At lower income levels, choices are far more constrained and at times very painful. The ability-to-pay issue is especially acute for services essential to health and well-being, including food, medicine, and water and wastewater service. Moreover, utility bills have a regressive effect with respect to the distribution of household incomes; households at lower income levels must devote a greater percentage of their income to utilities than households at higher income levels. It can be argued that at higher income levels, consumers can afford to pay not only a higher total water bill but a higher per-

¹ National Drinking Water Advisory Council (NDWAC), Small Systems Working Group (January 2003). *Information to States on Affordability Criteria*, US. Environmental Protection Agency: Washington D.C. (hereafter *2003 NDWAC*).

centage of their income toward water utility payments.²

NDWAC reports that:

Affordability assessment typically involves two different levels of analysis. The first measures household affordability or ability-to-pay, and is often used for screening purposes. In other words, systems falling below a specified level are subject to further tests of affordability. A conventional household affordability test is the ratio of annual user charges to median household income.³

Two variations of this approach include placing both water and wastewater charges in the numerator and using a weighting of measures to capture poverty effects.⁴

A two percent (2%) water/wastewater burden was used by the Environmental Protection Agency (EPA) in its 1993 assessment of the affordability of water/wastewater service.⁵ To take into account different aspects of the affordability issue, the EPA applied the two percent threshold to three different measures:

- Household costs to median household income;
- Aggregate household costs to aggregate household income (deemed the “best case”); and
- Household costs as a percentage of median household income for households earning less than 150 percent of

the Federal Poverty Level (deemed the “worst case”).

More recently, NDWAC reports that different states have adopted different “affordability criteria” to use in determining whether a water system is eligible for grant and loan assistance to help with compliance with the federal Safe Drinking Water Act (SDWA). NDWAC reports that affordability criteria are exceeded for four specific states under the following circumstances:

- New York, if the “target service charge” exceeds 1% of income for households with annual income between \$0 and \$24,725;
- Pennsylvania, if the “target service charge” exceeds an annual burden (bill divided by income) of between one percent (1%) and two percent (2%) depending on the socioeconomic condition of the community;
- Idaho, if the “target service charge” exceeds 1.5% of median household income; or
- Washington state, in a “disadvantaged community,” if the average residential user charge exceeds 2.0% of 80% of the statewide nonmetropolitan average median household income.

Other states have set similar standards.

- Maine has a Maximum Water Rate Goal (MWRG) of between 1.4% and 1.6% of median household income, depending on the level of the median income.⁶

² 2003 NDWAC, at 13.

³ Id., at 21.

⁴ Id.

⁵ Environmental Protection Agency (1993). *Affordability of the 1986 Amendments to Community Water Systems*, U.S. Environmental Protection Agency: Washington D.C. (hereafter *1993 Affordability Assessment*).

⁶ Office of Ground Water and Drinking Water (August 2000). *The Drinking Water State Revolving Fund Program: Case Studies in Implementation: Disadvantaged Communities*, at 11, U.S. Environmental Protection Agency: Washington D.C. (hereafter *Case Studies*).

- Maryland defines an unaffordable rate as one where the Target User Rate (TUR) exceeds from 1.0% to 1.25% of the community’s median household income⁷ (depending on the level of the median household income).⁸
- New Hampshire uses an affordability index that is calculated by dividing the estimated user rate by one percent (1.0%) of the median household income for the community.⁹
- Oregon sets the affordable drinking water rate at 1.75% of median household income for the area (city/county) in which the water system resides.¹⁰
- South Carolina sets its definition of drinking water affordability as a target user rate of at or below 1.4% of the median household income for the community.¹¹

Importantly, *no study cited by the NDWAC working group found a combined water/wastewater burden of more than 2.0% to be “affordable.”* The Final Report of this working group was explicitly adopted by the full National Drinking Water Advisory Council in July 2003.¹²

This two percent threshold appears to be the normal maximum for assessing wa-

⁷ The allowed percentage decreases as the median household income decreases.

⁸ *Case Studies*, at 16.

⁹ *Id.*, at 19.

¹⁰ *Id.*, at 24.

¹¹ *Id.*, at 28.

¹² National Drinking Water Advisory Council (July 2003). *Recommendations of the National Drinking Water Advisory Council to U.S. EPA on its National Small Systems Affordability Criteria*, at x, U.S. Environmental Protection Agency: Washington D.C. (“The NDWAC agrees with and adopts the report of the Affordability Work Group, with additional recommendations and minor modifications to some of the Work Group’s recommendations.”)

ter/wastewater affordability.¹³ Consider the U.S. General Accounting Office (GAO) observations in 2002:

Of the 31 states with a disadvantaged community program, 27 have adopted criteria that consider local water rates, often in conjunction with a community’s median household income. For example, seven states have determined that a community qualifies as “disadvantaged” if its water rates are at least 1 percent of its median household income. Another 11 states have established thresholds for local water rates ranging from 1.25 to 2 percent of median household income. The remaining nine states use different thresholds depending on the community’s median household income or a formula that considers other factors.¹⁴

A move by the U.S. Environmental Protection Agency (EPA) to set a water affordability burden at 2.5% for purposes of evaluating SDWA compliance technologies is not to the contrary. In 2002, the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency’s (EPA) Science Advisory Board (SAB) was asked to review the current standard for affordability determinations made by the EPA for SDWA compliance. The EPA had determined that clean water compliance technologies were unaffordable if they resulted in rates that exceeded 2.5% of state household median income.¹⁵ According to the SAB:

¹³ See e.g., Scott Rubin (February 1994). *Are Water Rates Becoming Unaffordable*, at 79, American Water Works Association: Denver (CO).

¹⁴ GAO (January 2002). *Drinking Water: Key Aspects of EPA’s Revolving Fund Program Need to be Strengthened*, at 16, General Accounting Office: Washington D.C.

¹⁵ Environmental Protection Agency (February 1998). *Information for States on Developing Affordability Criteria for Drinking Water*, U.S. Environmental Protection Agency: Washington D.C. (hereafter, *1998 Affordability Report*).

There are grounds for consideration of measures other than median income. The first concern about using median income arises from income inequality within water districts. Water bills are paid at the household level. Even if the median household can afford to pay the increased water bill, poorer households within a water district may find it unaffordable. This argues for considering the use of a lower percentile than the median.¹⁶

In addition, use of the 2.5% benchmark for more generalized affordability purposes has come under serious challenge in any event. According to one commentator, the EPA benchmark was never intended to be used for assessing affordability to low-income households. Scott Rubin states:

In January 2001, EPA further defined what it viewed to be the purpose of its national-level affordability analyses, stating: “The objective of a national-level affordability analysis is not to determine what is affordable to the poorest household in the U.S. Nor is it to determine what the richest household in the U.S. could afford. Rather, it is to look across all households in a given size category of systems and determine what is affordable to the typical, or ‘middle of the road’ household.”¹⁷

Rubin continued on to note the data shortcomings that inhered in the 2.5% EPA benchmark:

¹⁶Environmental Economics Advisory Committee, EPA Science Advisory Board (SAB) (December 2002). *Affordability Criteria for Small Drinking Water Systems: An EPA Science Advisory Board Report*, at 10, U.S. Environmental Protection Agency: Washington D.C.

¹⁷ Scott Rubin (2001). *Affordability of Water Service*, at 10, National Rural Water Association: Duncan (OK).

EPA has established 2.5% of median household income (MHI) as being an affordable expenditure for water service. Its justification for using this figure is seriously flawed in several respects.

At the most basic level, EPA commits a serious error in interpreting information from the Consumer Expenditure Survey. This survey, conducted by the Census Bureau for the Department of Labor’s Bureau of Labor Statistics, tracks household expenditures over time. The survey does not have a separate category for water service. Rather it combines water service in with wastewater service, trash removal, and “other public services” (this could include fire protection assessments and other services provided by local governments).

In conducting its analysis, however, EPA apparently assumed that 100% of household expenditures on this group of public services could be available for water service. For example, EPA states: “In establishing this threshold [2.5% of MHI], the Agency considered baseline household expenditures (as documented in the 1995 Consumer Expenditure Survey) for piped water relative to expenditure benchmarks for other household goods. . .”

Compounding this error is EPA’s assumption that the expenditures of a typical household would mirror those of a low-income household. This problem is most telling when EPA compares expenditures on water (really water and other public services) to expenditures on telephone service (roughly 2% of household pre-tax income) and energy (approximately 3% of household pre-tax income). But in conducting this comparison, EPA fails

to mention that a significant percentage of low-income households do not have telephone service because they cannot afford it. Data from the Federal Communications Commission show that fully 20% of households with incomes below \$5,000 do not have telephone service.

EPA also fails to mention that the federal and state governments spend billions of dollars each year on programs designed to provide telephone and energy services to low-income households. These programs include universal telephone service funds that have been established on the federal level and in most states (and that are funded by a surcharge on each telephone bill), and the Low Income Home Energy Assistance Program that is funded by the federal government and frequently supplemented at the state level.

Thus, EPA's assumption about what water bill is "affordable" is based on a comparison to telephone service (where despite federal and state programs, one out of every five very low income households cannot afford the service) and energy service (where hundreds of millions of dollars are spent by federal and state governments each year to try to provide the service to low-income households). Simply, 2.5% of MHI may be an affordable level of utility services for the *median* household, but for a low-income household to afford that expenditure would require new sources of funding at the federal and state levels.¹⁸

Summary and Conclusions

Two important conclusions march forward from the discussion above. First, the EPA 2.5% water

affordability threshold for assessing the financial viability of SDWA compliance technologies is unreasonably high for determining the affordability of water/wastewater bills for low-income households. The EPA threshold has a number of recognized conceptual and data flaws and is not to be used for rate affordability purposes.

Second, in contrast, a water/wastewater burden of 2.0% is the generally accepted threshold of determining affordability for low-income households.

Further Information

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¹⁸ *Id.*, at 11 – 12.