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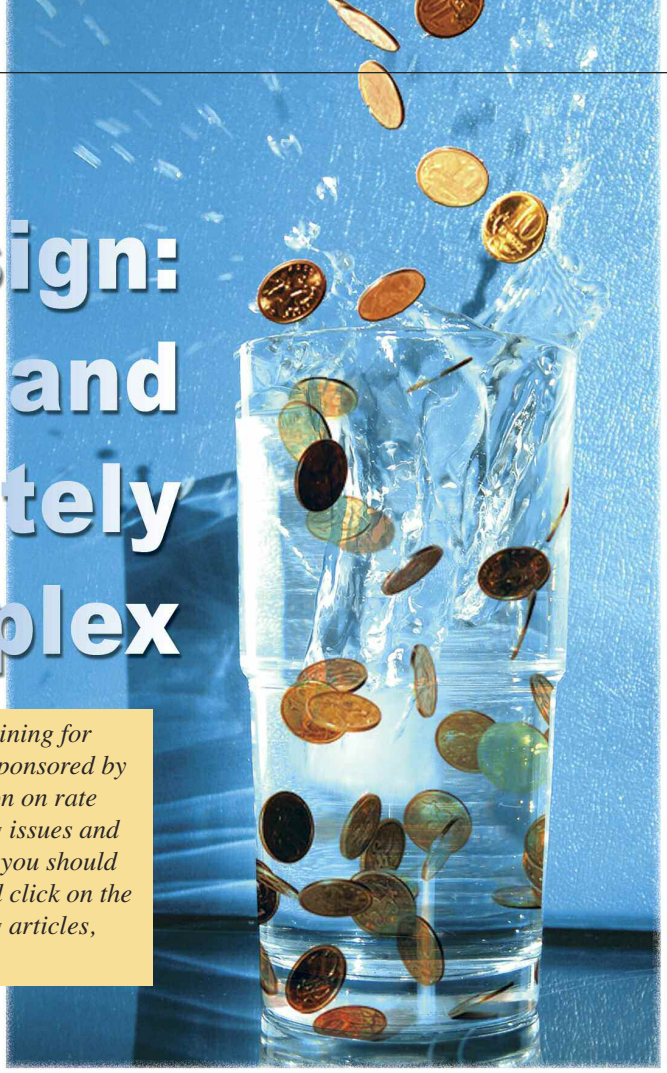
Water Rate Design: Adequate, Fair and Appropriately Simple or Complex



Editor's Note: *The Kansas RATES Program (Rate Analysis and Training for Environmental Systems), accessible at www.krwa.net/ratereviews/ sponsored by the Kansas Rural Water Association, includes training and education on rate setting. This and five more articles to follow cover basic rate setting issues and calculation methods. If you wish to learn more and learn it quicker, you should visit the author Carl Brown's Web site at gettinggreatrates.com/ and click on the "Freebies" link. There you can download dozens of free rate setting articles, guides and tools.*

Rate design begins with the "absolutely necessary" and progresses to the "nice to have" – just like life. If you get only what you absolutely must get, you live. If you get lots of "nice to have" things, too, you live well. My goal, just like Kansas Rural Water Association's goal, is to help systems get enough "nice to haves" to enable them to serve their customers very well.

An absolute "must have" is rates that are adequate to pay current expenses. If rates are not adequate, the system will quickly fail; it's as simple as that. Figuring such rates for next year takes no math beyond the regular budgeting process. If revenues are projected to be 10 percent short of expenses, you do a combination of increasing rates and/or decreasing expenses by a total of 10 percent.

To make sure you will generate enough revenue to pay for all of the equipment and services that are needed to make the system "sustainable," you will have to project well beyond next year. You better build substantial additional reserves, too, because "bad" things tend to happen and they are never free. These reserves will give your system resilience. Sustainability and resilience are nice to have so you should seek them.

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You might say that the system itself "cares" about sustainability and resilience. Ratepayers do too, but their immediate focus is the bill they must pay. They would love free service. Otherwise, they would like cheap rates. At the least, they want fair rates. You, the system manager, better give them fair rates or you will have a hard time "selling" the next bond issue. Fair rates require more math than just adequate rates.

Thus, a good starting place would be adequate and fair rates.

It would also be nice to have rates that are appropriately simple or complex. That means the rates suit the nature of the users, whether they are very uniform or very diverse. Appropriate rates require still more math.

What is appropriate for your situation is all a matter of proportion and preference. If you manage a big, complex system and your ratepayers are okay with simple rates, lucky you. All other things being equal, simple is better than complex. Just be aware that, in that case, some of your customers will be getting the shaft. That goes to fairness. In the extreme, it can lead to lawsuits.

Thus, it would be great to adopt and maintain rates that are adequate, fair and appropriately simple or complex. The author calls these, "great rates."

Now let's consider the basic rate components or structure.

Almost all systems have rates that include a minimum charge.

Some systems have only a minimum charge (flat rates). These are the simplest rates of all. They are appropriate for a small set of systems serving low numbers of customers. An example is a small subdivision of uniform homes and fairly uniform owners or occupants of those homes. The subdivision operates its own sewer system. Flat rates can work just fine here.

Flat rates math is simple. Flat rates are easy to explain. Revenue generation is almost guaranteed. For small systems, these are nice traits. We assume this rate structure is fair because we assume all the customers get nearly the same volume and quality of service. As long as none of these customers are "curve busters," flat rates are fine for small sewer systems and not too bad for some small water systems, too.

Great rates are adequate, fair and appropriately simple or complex.

Minimum charge – every user is charged the same

Unit charge – every unit is charged the same

Usage allowance – the volume users don't have to pay extra for

Most systems assess a minimum charge plus unit charges. Minimum plus unit charge rates are structurally fairer than flat rates. At their simplest, these rates can be almost as easy to calculate as flat rates, but they can be quite complex, too.

That brings us to unit charges. Unlike flat and minimum charges that are assessed to each customer, unit charges are assessed to each unit of service. High-volume customers pay more because they use more. However, depending upon how high or low the minimum charge is set, and if there is a substantial usage allowance in place, high volume customers may still end up paying less than what they should on a fairness basis.

Big, complex systems with diverse customers need complex rates. They may not need complex mathematical calculations to prove rate fairness to their rank and file customers. But they may need them to prove to big customers that they are not getting ripped off so they won't sue. Don't laugh, this is happening.

Even if lawsuits are a non-issue, how to pay system development costs, set wholesale rates and many other things require some high-level analysis to figure out. At some point, complexity will outstrip the ability or desire of the system to do the analysis in-house. Then it makes sense to hire a rate analyst. There are right and wrong ways to do this. The right way will yield fantastic results. The wrong way may yield disaster. Fortunately, the right way is actually the simplest way.

There you have it – the rate setting landscape that will be covered in this series. Big system managers, small system managers, board/council members – everyone needs to know the basic math and thinking behind rate setting. Larger systems will use this knowledge just to make decisions about how to approach rate setting. Smaller systems will use it to actually set rates themselves with little fuss.

All these issues will be covered in this series so tune in to learn how to get adequate, fair and appropriately simple or complex rates.

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